

The image shows the front cover of an old book. The cover is decorated with a marbled paper pattern in shades of blue, green, and cream. A central rectangular label with a decorative gold border contains the text "C. S. CHITTENDEN." in gold capital letters. The spine of the book is visible on the left, showing a dark, worn binding.

C. S. CHITTENDEN.



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THE
DENTAL REGISTER
OF THE WEST.

EDITED BY J. TAFT AND GEO. WATT.

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THE DENTAL REGISTER OF THE WEST.

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[No. 1.

Original Essays and Communications.



NEW FUSIBLE ALLOYS.

BY B. WOOD M. D.

In availing myself of this opportunity to furnish you with particulars as to the advantages claimed for the Metallic Composition, for which a patent has lately been issued to me, it will be necessary to advert briefly to some of the alloys upon which mine is offered as an improvement.

I may premise by stating that, having instituted a series of experiments with a view to the production of alloys, possessing great fusibility in connection with tenacity, malleability and other qualities required of a metal, as a solder for the more fusible metallic wares in use, and as a material for casting at a low temperature, &c., and having discovered in the metal cadmium as an ingredient in alloys, properties favorable to the result, I attained the object sought by combining this metal with lead and tin, and with lead, tin and bismuth, in the proportions as set forth in my specifications:—to these mercury may be added to modify the result for particular cases as described.

The advantage of possessing the joint qualities of great fusibility, malleability, strength, &c., in a metal designed for use as above, is too evident to dwell upon. Much patient experimentation has been conducted towards this end, and

and the research has been rewarded by the discovery of many valuable alloys.

One of the most useful of this class is the alloy commonly called "fine solder," consisting of one part of lead, and two parts tin. It is perfectly malleable, highly tenacious, and melts according to Prof. Graham, at the temperature of 360 deg. Fahr., being the most fusible of any of the mixtures of lead and tin. But its melting point is too high for a solder for the more fusible tin-metals, such as the ordinary pewter and Britannia ware, &c. Another objection is its softness.

The alloys consisting of lead, tin and bismuth, commonly called "bismuth solders," are harder and more fusible, but they are proportionably brittle. A common formula for very easily melted solder is 16 parts tin, 8 lead, 4 bismuth. A more fusible mixture and the most fusible *alloy* hitherto known is that discovered by Sir Isaac Newton, consisting of 3 parts tin, 5 lead, 8 bismuth. This melts, according to Prof. Graham, at 202 deg. Fahr. No practical improvement has ever been made upon this by any combination of the constituents, although certain combinations possess, according to some experimenters, a lower melting point by one or two degrees—a difference too slight for appreciation by ordinary tests. Practically the melting point is somewhat higher, requiring a temperature of about 210 deg. for perfect liquifaction. In view of its remarkable fusibility this alloy has received the distinguished name of "Fusible Metal." It is too brittle for ordinary use as a solder, but is much employed for casting, as in making dies for light work, and for taking impressions, from medallions, and other objects. Melting below the temperature of boiling water, it may be used upon the fresh plaster cast, or other moist surface. But it has the disadvantage that when used at a heat barely sufficient for fusion, it is not fluid enough to take the sharp outlines, and congeals before it can flow into the interstices; while a small additional heat raises its temperature above that at which water boils, whence steam is produced which spoils the work.

The melting point of these alloys may, as is well known be lowered to any extent by the addition of mercury, but this metal even in small proportions renders them so frail, and brittle as to be worthless for the ordinary uses. It also causes them to tarnish, and is partly eliminated from the compound, being retained rather as a foreign admixture than as a chemical constituent, whence it occurs that these *amalgams* injure other metals with which they come in contact. So also when used for anatomical injections the mercury permeates, and blackens the tissues.

My improvement greatly obviates these defects and meets more perfectly the requirements of alloys of this class. The composition composed of cadmium, lead and tin, melts somewhat under 300 deg. Farh., or sixty or seventy degrees below the melting point of the "fine solder" above referred to. It is equal to it in malleability and tenacity, is much harder and stronger, and admits of a higher polish. It ranks in fusibility with the more easily melted "bismuth solders," and is believed to be greatly superior to any of them in all the other requisites for this purpose. The advantages for other purposes of a metal possessing these qualities will readily suggest themselves.

The composition consisting of cadmium, lead and tin, in conjunction with bismuth, melts between 150 and 160 deg. Fahr., being some fifty or sixty degrees below the melting point of Newton's "Fusible Metal," mentioned above, corresponding very nearly with it in respect to malleability and tenacity, but harder and more adhesive. It is adapted to similar purposes, and the low temperature at which it fuses renders it applicable in many cases where the other would not answer, while it is free from the objections appertaining to the amalgams resorted to in such cases. As a material for anatomical injections it will be found superior in every respect, it is believed, to the amalgams in use.

This alloy, it will be observed, is much more fusible than any other *alloy* known in the arts, or than any combination

of metals whatever except amalgams. I speak here of the permanent metals without regard to what possibly may have been produced in the chemist's laboratory by combinations of such unstable metals as potassium, and sodium, which, it is evident, would not be permanent in ordinary conditions, much less be of practical application in the arts.

Both of these forms of alloy are susceptible of considerable modification as to their physical characters, such as hardness, rigidity, pliancy, &c., by varying the proportions of their constituents, as set forth in my specification.

Their melting point may be lowered, like that of other alloys, by the addition of mercury, but what is peculiar, this metal may be employed to a certain extent in connection with them without materially impairing their tenacity, whereas, if used in like quantity in any analogous alloy not containing cadmium, it would render the compound so frail and brittle as to be worthless. Moreover, cadmium having a strong affinity for mercury, and affording a bond of chemical union between it and the other constituents, a true chemical combination appears to result:—whence the presence of mercury is less objectionable than in the cases before referred to.

From the results of my experiments I doubt not that cadmium, which has so long been passed over as of little practical utility, is destined to become a very important metal in the arts. It is usually found associated with zinc. If the reports be true that zinc has been found extensively in the Western States, it is possible cadmium may be obtained in connection with it in greater abundance than heretofore produced from other localities, and it might be worth the while of our metallurgists to direct their attention to the subject.

NASHVILLE, TENN., April 28, 1860.

DENTAL SURGERY.

BY P. G. C. HUNT.

[A paper read before the Local Medical Society of Indianapolis, Indiana.]

DENTISTRY is said to be a speciality of medical science, and, though the profession is prone to regard (and perhaps often justly,) the assumption of special attention to, and skill in one branch of medical science, as savoring of the unclean thing, charlatanism, yet we are proud to say and believe that Dental Surgery and Mechanism is worthily taking a stand far in advance, of what in former years it occupied, and that too, with the full concurrence and entire approbation of the whole medical profession. The progress of the Dental art within the last half century has been truly astonishing. Then, how meagre its literature, how few its intelligent practitioners, and how comparatively unsatisfactory the best skill in the world—and how numerous were the pretenders to this liberal art, whose utter ignorance and dishonesty brought contempt upon themselves, and distrust upon the profession, and until comparatively recent date it is to be confessed, we imagine, that medical knowledge partook more of a theoretic or speculative tendency than at the present day.

Men of science felt inclined to allow Surgery and every thing mechanical connected with the healing art, to remain in the hands of Barber Surgeons, and gradually only did general surgery assume its present rank in the arcana of medical science. The history of science is a parallel case. Separate from it a knowledge of general and comparative anatomy, physiology, chemistry, and therapeutics, and what is there left? Why, not enough of vitality to keep it from relapsing into the shades from whence the last half century rescued it. A knowledge of medical science and its collateral teachings is the foundation upon which modern dentistry rests, and we can refer, with perhaps pardonable pride, to American Dental Literature, as the evidences of progress in

theoretical and practical knowledge in this speciality, and the advance toward perfection in the mechanical department of the profession, is more rapid at this time, than at any former period, and the dentist who operates to-day precisely as he did ten years ago, is behind the times and fails to give his patient the benefit of much that has been learned and tested in that time.

Much that was formerly considered impossible in practical dentistry, is now a matter of every day operation, as for example, the restoration to health and usefulness of a tooth, the pulp of which is exposed by decay of bone, or even when after destruction of the nerve pulp suppurative inflammation has attacked the adjacent tissues, success in such an operation would scarcely have been hoped for a few years since, while at this day any patient who keeps pace with the advancement of the profession, will undertake without hesitation to perform such an operation, time and expense being considerations for the patient.

That there are important considerations for a general practitioner, to be found in connection with those parts of the physical system, which pertain to dental education, is without doubt more or less known and acknowledged by the medical profession. But that the full measure of relation between the various conditions of disease, loss of natural organs, enervating salivary secretions, impure exhalations issuing from the mouth contaminating the air we breathe, is not fully understood can not admit of a doubt, all of which and more, it is the special province of dentists to investigate and endeavor to remedy. The full relations between these conditions and other parts of the animal economy, in relation to general diagnosis curative and sanative measures are not generally accorded by physicians. In endowing man with a complex structure and arranging the multitude of glands, organs and tissues, intimately connected with each other; the lips, the tongue, the salivary glands, and especially the teeth, reasoning *a priori*, we should suppose are of such im-

portance to a healthful state of the animal system that their loss or an impairment of their functions, would result in a disturbance of those other organs, with which they sustain the most intimate relations. Nor will it be found that such reasoning is fallacious. Any one who has had occasion to observe the general health of a person during a series of years, which shall include a period extending from a time when the teeth are healthful, intact, and performing fully the duty of mastication through the various gradations of disease, decay and loss, will inevitably discover dependent impairments of the digestive functions. Solid food or that which is possessed of moderate adhesion of its particles, no longer submitted to the grinding of the dental organs, and a thorough admixture with salivary secretions is passed into the stomach, unfitted for the ready action of that organ. Such an occurrence repeated daily, almost hourly, wearies out the ability of the digestive apparatus, and though the wonderful adaptability of the animal organism is sufficient to withstand for a time, this unnatural condition, its continual recurrence finally produces the most deplorable results. The external indications of which are irritability of temper, sallow complexion, pinched expression of countenance, and every indication of a confirmed dyspeptic, not to speak of a loss of the natural contour of the face and inability to articulate with distinctness.

Every general practitioner will recognize the sequence which we have described, yet not every one, it is to be apprehended, if consulted by a patient suffering under those circumstances, would recognize the important aid to be derived from the skillful services of an intelligent and conscientious dentist. But too frequently in such cases will the general practitioner after ascertaining debility and vitiated action in the digestive functions, substitute these for primary indications and found a treatment, on a partial diagnosis of the case. The insalivation of the food is strictly a mechanical operation, its trituration comingulation, with the secre-

tions and its preparation into a bolus, its deglutition are all purely of mechanical nature, and a loss of those implements used in any of these processes, of course renders such process defective or impossible. As well might the miller expect to produce a double extra quality of flour, his neither millstone being missing, as to expect a mouth deprived of *grinders*, to prepare proper digestible material for the stomach. Now one province of the dental art is to supply a substitute for the loss of natural parts, and just so far as this can be done with success, should it be estimated, and receive the meed of favor which is its due.

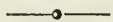
Foreigners say of the American people, that we spend too short a time at the table and they ridicule with great apparent zest, the American method of "bolting food," and they argue with seriousness that mastication can not be sufficiently performed in the hurried manner in which Americans swallow food. Is there not reason in their more leisurely manner of satisfying the appetite? Evidently more perfect preparation of food can be had by eating with slowness.

In ruminating animals we find that perhaps one third of the twenty-four hours is spent in masticating the food, in strictly carnivorous tribes, food is generally taken from necessity at considerable intervals, and instead of a masticatory process long protracted, the food is cut into pieces adapted to their purpose, having teeth not suited to comminuting or grinding their food. Man who occupies with respect to teeth and digestive system, an intermediate position is possessed of dental organs indicating that though he is not adapted to chew the cud like the former, neither should he be content, like the latter, to cut it into morsels fitted for the largest capacity of the *Æsophegas*. Reason, experience and observation, alike concur in pointing out the propriety of a thorough mastication of every solid edible, and those possessing imperfect grinders should occupy a time longer if necessary, or their food should be of such a nature as to require less trituration to reduce it to a proper consistency.

In civilized societies the teeth are among the first organs of the body to exhibit the deleterious effect of artificial and unnatural methods of living, and this may be observed both in their formation, which in the period of development, ill health, lack of appropriate nourishment may render defective. And in maturity, when though they may be normal in structure, they yield to the powerful solvents which bad digestion may produce, or bad taste select as condiments. When during the period of second dentition the health of a child is imperfect, observation will warrant us in predicting with a degree of accuracy that the teeth will be abnormal in their constituents, a deficiency in their gelatinous elements is mostly observable. They possess a whiteness of color, which is unnatural, they are friable and imperfectly protected by enamel, and not unfrequently their position and arrangement is irregular, and also we think that we have observed this connection between the development of teeth and the general system, that large perfect teeth are associated with large healthful bodily development, and *vice versa*. And as teeth are formed and their size determined before the completion of development of other portions of the system, does it not sometimes happen that the physical growth of an individual may be prematurely brought to a stand, and he possess teeth suited for a larger stature? We conceive we have observed this. to obtain in many instances, we do not suppose that in a physiological condition the teeth should invariably bear a precise ratio in size to physical development, but we think that an approximation can readily be discovered by attention, much more so than in the hand or foot or other organs of the body. Without doubt it can be said, that the general practitioner does not lose sight of diseases of the mouth, but the dentist who makes these diseases, his speciality should be awarded that position by the medical profession that his acquirements as a specialist seem to demand.

Eminent minds have often admitted, that a single department of science is sufficiently comprehensive to occupy the

attention for the entire life of one man. With the dentist in full practice, it is a matter of every day occurrence to see mouths so replete with salivary calculus and accumulated filth, as to leave no doubt in the mind of any one, who reasons from cause to effect, that to this cause, in many cases, might with truth be referred disturbances, more or less serious in the elementary canal and lungs. Again that most distressing disease, facial neuralgia, which is considered unmanageable and eccentric, in a large proportion of cases by a careful diagnosis will be found to depend upon the diseased pulp of some offending tooth. In whatever light dentistry may be viewed, it will be evident to an unprejudiced mind, that it has claims to be admitted to the favorable consideration of the medical profession, whether as a collateral branch of the healing art, or as means of relieving human suffering and contributing to the comfort and happiness of mankind.



GUTTA PERCHA FOR SEPARATING AND REGULATING TEETH.

BY B. WOOD.

AMONG the many uses of gutta percha I have found it serviceable for making semi-elastic bands and ligatures applicable in separating and regulating the teeth, answering the purpose in many cases better than any thing else I have tried. Its usefulness for this depends upon a singular property.

If we cut a narrow strip of sheet gutta percha, say Slayton's, as prepared for temporary sets, and gradually stretch it with the fingers, it will be found to *draw out* from two and a half to three times its original length; at which point it resists any further *permanent* extension. It is now quite elastic, and, in consequence of the condensation and consolidation of its fibres by this tension, has acquired such strength as to defy the efforts of the fingers to pull it apart; whereas

prior to this manipulation a light jerk would have snapped it in two, although of nearly thrice its present thickness—and for this reason it requires to be stretched gradually and evenly at the first.

In this condition it is ready for use, possessing strength sufficient, and the desirable amount of elasticity. By having sheets of different thicknesses we can thus obtain strips and bands to suit particular cases. For separating or wedging teeth a strip is drawn between them and cut off at either side. It is readily applied, and is neater, and more comfortable to the patient than wood, tape or rubber. It has sufficient firmness and elasticity to keep its place and exert constant pressure, while its elasticity is not so great as to produce undue irritation beyond our control. India rubber loosely drawn between the teeth fails to exert due pressure and easily slips out of place. If drawn tightly, the strain produces irritation, and *more work* is apt to be done by it than we intended; we can not regulate nor always foresee the result. On the other hand, tape, wood, &c., are too hard and unyielding.

This defect of rubber may, it is true, be obviated to some extent by using it in the form of rings of the desired thickness which shall be self-sustained by encircling the teeth, and which are also readily applied in cases that might otherwise prove troublesome, by the simple expedient of carrying the ring to its place by the means of two strings passed through it on either side, so as to stretch and adjust it as desired—an expedient which will prove useful to have mentioned if there are any who have not hit upon it. But rings are not always adapted to the case, and for front teeth they are objectionable on the score of appearance.

The gutta percha wedges are so pliant and so yielding as to be worn with little or no discomfort; they possess sufficient elasticity to do the work required of them without danger of overdoing it; and they present a body and surface that generally ensure their remaining *in situ*, or if there be danger of

working out they may be secured at once by blunting or *riveting* the protruding ends with the headed point of a plugger.

In like manner these bands are well suited for regulating teeth, affording a frequently needed substitute for gum elastic bands on the one hand, and non-elastic ligatures on the other, being applied as above indicated, or in various ways, according to the nature of the case, which will readily suggest themselves to the operator—upon which I need not dwell in this, only designing to call attention to the qualities of gutta percha for the purposes referred to. The best material should be employed. And doubtless it might be prepared so as to answer these and similar ends better than any preparation of it now to be had.



A NEW METHOD OF USING VULCANITE.

BY P. G. C. HUNT.

TAKE the impression, make metallic dies and form the plate as for work in the ordinary way. After fitting the plate in the mouth get the articulation the fullness and length of the teeth, remove the wax and plate from the mouth and make the plaster articulation. If a full set, after separating the articulation and before removing the wax from the plate, take a small light pair of dividers, set them say one inch apart and with one point following the margin of the wax representing the cutting edge of the teeth, and the other point marking permanently the plaster. Thus you always have in the dividers so set a gauge for the length of any particular tooth. A convenient substitute for the dividers may be formed from a piece of wire of convenient length, one half the diameter of a common excavator, by suitably twisting its middle for a handle, and its ends being sharpened and pointing in the same direction, one or one and a half inches apart, for which idea and many others

of practical utility we are indebted to Dr. W. M. Hunter, of Cincinnati.

Thus far we proceed as we do for ordinary gold work. We will now suppose the teeth ground and jointed, leaving as much space between the teeth and plate as the plate will admit of. We next mark with a sharp pointed instrument on the labial surface of the plate each point where it is necessary to place a loop for purposes hereinafter described. Then apply wax to the external or labial parts of the teeth and plate in any manner sufficient to retain the teeth in position—remove the wax from the lingual parts of the teeth and plate and mark the position on the metal where it is desirable to insert loops, remove the teeth and wax and with a small bow-drill, make holes through the plate at the several points previously determined on for the attachments, about the size of the ordinary plate punch hole, take of ordinary gold plate, cut in strips, say from a half to one line in width, being governed by the amount of room there is under the base of the teeth, with small round nosed pliers, or a wire, bend the strip around, grasp both ends with square nosed pliers, draw the round nosed pliers, or wire, as the case may be, still grasping the square nosed pliers with the left hand, and with a hammer strike the top of the loop a sufficient blow to keep the ends from springing apart. Cut off the ends and dress down to fit the holes in the plate, after which solder on charcoal or other suitable substance without investment. Pickle, dress and polish that portion of the plate to be exposed to view. Bend and flatten the pins, arrange the teeth according to the articulation, waxing so as to cover up the loops if practicable—the loops should be placed as near the base of the teeth as possible, the rubber forming when finished a part of that general concave shape which is desirable in upper dentures and which it is not possible to obtain with the ordinary soldered work. Then with silicate of soda paint the joints to keep the rubber from forcing in where it would show after vulcanizing. Flask, vulcanize and finish up as usual. The

advantages of this style of work are obvious. With this you have work as cleanly as the continuous gum, decidedly more so than the very best single gum or block work soldered in the usual way; again, it is very much stronger, less liable to breakage both in and out of the mouth as the rubber gives *a perfect base* and support for the teeth to set upon. By this method *there is no springing of plates*. As your plates fit the mouth when the articulation was taken, so will be the fit when the case is completed.

On the labial edge of the upper plate the rubber may be allowed to project beyond the edge if desirable, and it will be found in many cases exceedingly satisfactory to do so, and allow the rubber to be of considerable thickness near the alve of the nose where the loss of the cuspidati may leave a want of support to the soft parts adjacent, and which in this manner can be readily corrected. If the rubber extends upward so far as to irritate the muscular structure a few minutes will be sufficient to make the necessary alterations. In all such cases where we have control of our patients we place the denture in the mouth before finally polishing so as to determine as accurately as possible the limit to which extension upward may be carried.

The neatest work on this principle is made by carving blocks, giving to the lingual surface that regular concave form which is desirable. In this no platinum pins or loops are necessary, but that half of the matrix on which the blocks are carved, large metallic pins are so arranged as to be hid from view in the tooth body. Different sized pins may be used as large as the nature of the case will admit. In short, we make holes in the block similar to those in pivot teeth, where there is not sufficient room in the block above the tooth (or below if an under,) to allow the pins to run into the body of the teeth. After burning, grinding and fitting, get the position of the holes in the blocks relative to the plate, and drill through the plate as before, and instead of loops solder gold wire of suitable size and length, say a very little

shorter than the depth of the hole in the blocks and two thirds the diameter thereof; the wire should have a screw thread cut on it or that which is just as good and more expeditious, barb or cut with a sharp knife. At this point of the manipulation if it is desired that the rubber should extend beyond the labial or buccal edge of the metallic plate place as many loops at different points as are sufficient to retain it with firmness, after which polish the plate, wax and proceed as before described. If you desire no rubber beyond the blocks the roughness of the holes in the same and the barbed points on the gold wire when properly packed and vulcanized will give ample strength and firmness to the case, and if care has been used in the entire manipulation you will have when finished but a thin line of rubber exposed to view.

In partial cases, if of gold base, we solder on loops as before for the retention of the teeth, and if there are to be *any clasps* make them of rubber, uniting them, as the teeth, with loops. If the ordinary plate teeth are used it is frequently necessary to back them, to give better retaining points for the rubber. If blocks are to be burned insert loops of platinum plate in the shape of the letter U in place of the platinum wire pins. In consequence of the affinity of the sulphur in the vulcanite for silver, plates of that metal should not be used.

Since preparing the above I find in the May number of the *Vulcanite*, a new quarterly journal of New York, published by B. W. Franklin, a notice of a patent obtained by Drs. A. M. Asay and J. T. Asay, of Philadelphia, for the same method of mounting work as is here set forth. This method has been used by me since October, 1859, during which time I may have been trespassing upon the patented rights of Drs. Asays. The reception of the *Vulcanite* was the first intimation I had that any one was using the vulcanite in this way, excepting to those whom I have heretofore explained my method of manipulation.

LANGUAGE—MISTAKES—CORRECTIONS.

THE English idiom requires the adjective to precede the noun.

Hybridism is perpetrated if languages have genera and species ; in such words as “ Acid Tannicum.”

Carbolic acid may combine with albumen or gelatine forming insoluble compounds but that “ *Carbonic acid* ” (a gas except under immense pressure,) can combine with either of the animal tissues, but to destroy them ; I have yet to learn.

And if it is so hard to learn I should like to know how Dr. F. came in possession of the belief that it might so combine and not generate mephetic and dangerous gasses.

A slight misstake on the part of a reporter who should have known better has led to a deal of learned (?) discussion upon the “ Carbonic Acid ” combination question. And has resulted just as all such attempts to solve the insolvable have always terminated and as far as we can see ever will terminate until we first soberly look the matter in the front and let our minds have the chance to focalize before we take sides and feel bound to maintain a position falsely taken, all for the sake of “ consistency ” and acting in accordance with our “ better judgment.”

This better judgment fallacy that so many of the blind leaders have set such high value upon is either just no judgment at all or else a peradventure pre-judging any matter which it may be proposed to exercise it upon.

All arising from a cowardly dread of running the risk of letting our fellows know (what we ourselves very well know) that as yet we do not quite know all about it, and would rather make fools of ourselves in an attempt to appear wise (hoping we *may* be right after all) in saying *something* on one side or the other of every question that is proposed. Instead of going as far as we really do know and then let the mind be without opinion upon the subject until it either gathers sufficient to form one intelligibly or gets evidence

enough to constitute belief, or which is best of all, clearly perceives the demonstration so as to enable him to make it equally plain to all who have the humility to give their attention.

If I thought Dr. Watt capable of making the statement that is attributed to him I should be under the painful necessity of saying to him, please give some more correct chemist place, and see him with shame take a lower seat in my regards and real merit.

It may be well that this thing has "been in blessing sent us." And I hope it may prove the folly of our own bowing to authority irrespective of close scrutiny and truthfulness to principle.

As long as naked authority sways the mind we shall be pinning our faith to some one else's sleeve, and in all time of trial must have resort to our fountain of strength in the repository of authority, whether in books, persons or modes, or utterly fail to effect (except by the merest chance) the highest good to those for whom we operate.

If I or some other one not learned in chemistry had made the statement it would either not have seen the light or if it did would have been corrected beforehand.

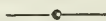
But coming as it did from one to whom we looked up with a confidence it was *misunderstood*, and in accordance with due respect and proper regard for authority a mere misstatement supplanted the real statement, and so an error crept in at the same hole that all falsities and negations ever do.

This folly of mistaking an "ignis-fatuus" for the orb of day, because it was in a line with the "orient" is no new thing under the sun. And I do hope this lesson, with many others like it, originating *near* the source of this, may teach us that it matters not how clearly defined a proposition may be in the mind of him who enunciates it, it is no demonstration to the learner until he has taken in the necessary perception of the position to render it *past* opinion or belief by becoming a matter of *knowledge* to him.

The reporter may be excused on the ground of his being occupied more with *sounds* than *ideas*. But that a well posted man could deliberately entertain such lucubrations as are evident upon the reading, must have occupied him when writing. I acknowledge my inability to make tally with consistency.

“SEARCHER.”

We are at a loss to know what Searcher means by the above.—ED.



VULCANITE IDEAS.

As the Vulcanite and Amber base continues to occupy the attention of the dental profession, almost to the exclusion of every other subject, a few *new* ideas relative to the manipulating of the same, will, I hope, be received with favor; so I'll to the point at once.

The base, which insinuates itself between the teeth, no matter with what accuracy you grind them, will invariably show itself, after the piece is vulcanized, without adding to its artistic appearance; here is an idea which will effectually prevent it: apply Pearson's Osteoplastic to the joints, upon the *final* arrangement of the teeth. I have tried Plaster, Soluble Glass, Diamond Cement, and *Spalding's Glue*, but the Osteoplastic is superior to them all.

Another idea!! After you have arranged your teeth to the temporary plate, do not put melted wax around, on, or between the teeth, but take a strip of tin foil and place that over the pins, then put wax over the tin foil; by so doing you save over an hour's labor, for you can (after you have invested the job in the flask, previous to packing,) take hold of the foil, and pull off the wax from the teeth at once; besides having the pins perfectly clean, which is absolutely necessary for their perfect union with the base.

Another idea!! Another hour's labor will be saved if you have the temporary plate so thin that it will plainly indicate

the form of the ruga and chamber when pressed on the model; by filling the depressions of these with wax, you will have it sufficiently thin, after being vulcanized without one third the usual trouble of dressing down.

Another idea!! Before you pack cut a circle around the model in addition to the usual channels cut, also file a few notches into the rim of the flask itself, running the channels in a line with them, then the superabundance of material will exude out, and allow the two sections to meet, thereby preventing what has heretofore been a great annoyance—the perfect antagonism of the teeth.

Another idea!! Heat your flasks and base, inside of your vulcanizer (empty) instead of on a heated brick or lamp.
Au revoir. A. PACKHAM.

Whitesville, Harris Co., Ga., May 1, 1860.

Proceedings of Societies.

DISCUSSIONS OF THE KENTUCKY STATE DENTAL ASSOCIATION.

THE first topic taken up, was Filling Teeth.

Dr. DRIGGS said that he had some experience in filling teeth with the material known as Osteoplastic; it had not met either his expectations or his desires; this material did not harden with sufficient rapidity; he had found various results from different manipulations; used Pearson's.

Dr. PECKOVER about a year ago got a bottle of Pearson's, but it would not harden except by shaking and drying the superfluous moisture with bibulous paper. He saw some fillings a short time ago, very good; had lately bought some of Roberts' Os-artificial, which does much better; sets quicker and very hard; so rapidly did it harden that it spoiled a bur-

nisher the second day with which he tried to burnish it; there was certainly a great difference between the two materials; one sets in five or ten minutes, the other as quickly as it can be introduced.

Dr. DAWES had a tooth filled with os artificial, the nerve of which was destroyed; for a few days it was very painful; so much so that for two or three days he thought inflammation would ensue; but the pain has entirely subsided since, and it feels very comfortable, and is very hard; it solidified in a few minutes.

Dr. McCLELLAND remarked in reference to Dr. Dawes' case that he would not attribute it to the kind of filling; any other filling would have produced the same result; all dead teeth have some secretions, and will produce the same sensations, even when filled closely with cotton.

Dr. PECKOVER said a gentleman called to have a tooth filled; he had destroyed the nerve and prepared fangs; drilled out fangs, filled with os artificial, expecting to cut it out and fill with gold, and when requested to return and have it removed and gold put in, the patient objected and said the os artificial was so satisfactory that he did not want to change.

Dr. E. J. PECKOVER said he had several fillings in his own family of Pearson's osteoplastic; it did not harden rapidly, but by the use of bibulous paper it got hard in a few days, and the patients were doing well.

Dr. GRANT had used Pearson's osteoplastic; had expected much, but was disappointed; it did not get hard as rapidly as he expected; had attempted some difficult filling, but failed to produce satisfactory results.

Dr. FOOTE had some experience; impressions were unfavorable; where the tooth was good, he must object to putting it in, because of the caustic qualities of the material, as it would likely injure the tooth bone; was opposed to the use of caustics; in some cases he observed a yellow tinge around the fillings; attributed this to the caustic effects of the mate-

rials; preferred for temporary filling, Hills' stopping or Bevin's filling; for permanent work—gold.

Dr. GRANT has had some experience in the use of chloride of zinc; had been very cautious; used it in adult teeth with great success in allaying pain and without injurious effects; should be used with great caution, otherwise injury will result; lets it remain from five to thirty minutes.

Dr. TALBERT related his experience with chloride of zinc and filled with crystal gold, and found after a year that it was necessary to remove it and replace the filling, the bone having disintegrated; attributed it to the chrystal gold, rather than to zinc; he had found in cavities much sensitiveness and on application of the zinc for a few moments, the sensitiveness subsided, and the tooth was filled with comfort.

Dr. JUSTICE related a similar experience and confirmed Dr. Talbert's conclusion. The objections to using caustics in the teeth of persons of fifteen years of age or under, is that the tooth bone is less dense, and therefore will absorb the caustic more rapidly.

Dr. FOOTE drew the same conclusions from similar reasons, and because the circulation is greater and the recuperative powers better, and nature more rapidly repairs any mischief that may be done.

Dr. ROGERS had not an extensive experience but had watched with much care, all the information that could be gained through the journals, and from experience; used it with much caution, only in superficial cavities, and none with perfect success; he first rubs the tooth with wax; uses crystalized chloride generally but sometimes the deliquesced article; thinks that chloride of zinc in chloroform can be preserved without deliquescing; was very cautious, generally followed with carbonate of soda, and cut with sharp excavators, so as to remove all that was touched; generally prefers to depend upon a sharp instrument, and the firm resolution of the patient.

Dr. STONE thought that in shallow cavities, a small, sharp,

keen bur drill, like the French, will remove the sensitiveness, with less pain, and in less time, than with caustics.

Adjourned.

SECOND DAY—MORNING SESSION.

First Day's Topic continued.

Dr. FOOTE made a few remarks on the use of the mallet, giving Dr. Atkinson, of Cleveland, credit for originality as well as practical illustrations and teachings, by filling a tooth in the mouth of Dr. Taft, filling fangs as well as tooth; the description being the same as that published in the April number of the *Register*.

Dr. ROGERS: can advance nothing new. Take first molar, decayed on anterior approximal side, complicated with coronal decay, cuts out cavity square into the coronal cavity; cuts gold into strips, and folds in on regular long strips, cuts into proper length, and on a watch maker's broach formed into cylinders; takes one of these cylinders, thrusts it into one side of the bottom of cavity, then one on the opposite side, leaving a space, then another between, projecting beyond the margin of the cavity, bringing up into an angle at the point of reunion of approximate and coronal cavities, then consolidate as a finished filling; then add to that enough to complete the filling, bringing all pressure as nearly in a line with the axis of the tooth as possible; in using cylinders, unless the gold is adhesive, the lamina should stand erect, otherwise after wear, the indentations of instruments would show, by the scaling off of crushed portions; does not anneal cylinders, nor frequently strips, unless some particular object is to be obtained; in very shallow, or superficial cavities does not use cylinders, but where there is any reasonable depth does; has made some good fillings of crystal foil, and some failures; thought it depended upon the character of the operation.

Dr. McCLELLAND described his method in proximate cavities in bicuspsids; used as traight chisel beveled from one

side, can do it with more rapidity and less pain. After removing the edge and giving sufficient room, with file, we smooth the edge, and with a large sharp excavator, removes the principal decay; then well prepare the cavity, near the gum, shaping it as near square as practicable, uses gouges and spoon-shaped excavators, straight or right and left as best suited to reach the point; cuts shoulders or pockets in the side, so as to get a firm hold, using a hatchet, bending the shaft as required, when the cavity is prepared. Prepares gold No. 6, non-adhesive, cut in strips $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$ sheets, folded flat into squares; takes one that will fill $\frac{1}{3}$ cavity, forcing it into the bottom of the cavity, next or under the gum, then fills pockets as retaining points, leaving gold projecting beyond the cavities so as to make flush in the last layers or blocks, uses annealed gold, which makes a smooth and harder surface, with serrated condenser, removes all fragments of gold between the teeth, files off the rough portions, and condenses again, and then repeats filing and condensing until he has a perfectly smooth and hard surface, which is finished with a smooth burnisher, soap, &c.

Dr. DRIGGS on preparation of cavities had nothing to say; had for seven years endeavored to put in fillings with the ordinary rope but in two classes never could be successful, viz: in large crown and large proximate cavities. For two years has used cylinders with very much greater success; proceeds as Dr. Rogers does, but uses No. 4 foil, thinks No. 6 too heavy, except for very large crown cavities, taking very great care that the cylinders are not displaced, or that they do not recede under the instrument, fills nearly full, leaving a well shaped cavity near the surface, which is filled and finished with crystal gold foil, leaving a smoother and harder surface than can be done otherwise, thus for approximate cavities; in crown cavities fill full with cylinders, then force the instrument into the center, and fill in a wedge. Crystal foil in contact with the walls of the cavity is inadmissible, except with mallet. Non-

adhesive foil adapts itself more closely; related some experiments in which crystal gold plugs were displaced in burnishing, though in a perfectly solid mass, the filling being a unit, perfectly hard; never could use adhesive foil satisfactorily alone, but in conjunction with non-adhesive, using non-adhesive against the walls of the cavity, filling center and surface with the crystal gold, or adhesive foil, uses it folded, taking but three layers at a time, so as to condense *through* each time.

Dr. JUSTICE always prepares cavities as well as he can, to remove all decay, uses Abbey's No. 6, in strips, finds satisfactory results; recently saw some of his first fillings, made years ago; still perfect, never used crystal or adhesive foil.

Dr. E. J. PECKOVER: is a young practitioner; had but little experience, was taking advantage of this meeting to learn; uses Abbey's No. 6 with Leslie's adhesive foil, folded into strips and cut into blocks, packing the non-adhesive foil against the walls of the cavity, finishing center and surface with adhesive; cavity being of course prepared properly with suitable retaining points.

Dr. GRANT had never taken part in discussions, came to learn the experience of old members, wished to profit thereby, was much gratified with what had been said, and will adopt some of the practices described; commonly used ropes of Abbey's No. 4 or 6 adapted to size of cavity, rolled loose; concurrred with Dr. Driggs in the advantages of lamina rollings, as it packs better in folds; spoke of a large proximate cavity in the central incisor, in which it was difficult to retain the gold; did so by placing a wedge between, and using it as if it were the walls.

Dr. TALBERT during the past three or four years' practice, used gold foil No. 4 and 6, of different manufactures, folded with small folds into strips; used Abbey's until recently, as received from the maker; tried crystal gold foil, but did not like it, more recently used ropes of Abbey's No. 4 annealed, found much difficulty, giving much more labor, but repaid by good results; two years ago adopted the an-

nealing of Abbey's No. 6, finds it adhesive, sufficient for all purposes, more plastic and more easily controlled than any other; cut into strips as required for cavity, cutting into strips of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$ sheets, rolling into rope, and pack from end of rope, pressing fold upon fold with rough pointed pluggers, filling up as described, and filling and finishing pockets and depressions last.

Dr. STONE said he commenced filling teeth in early life and had been at it a long time; that although apparently a young man, he was nevertheless old in filling teeth, there are so many varieties of temper, disposition, etc., that it is difficult to do uniform work; had endeavored to be honest to his patients; if all are candid doubted whether at all times we do work just in the best manner we are capable of; there are many difficulties to overcome. At the door meet patients in as cheerful and cordial manner as possible; by this putting patients perfectly at their ease overcomes many difficulties, which would otherwise occur. Commences with the tooth which gives least pain; after filling one or two, proceeds with whatever is diseased. Goes at it first to cut down walls, so as to give strength enough of wall and make free access; uses wedged shaped instruments of all sizes, whether large or small; still uses the flat point some, as thin as a knife blade, after cutting down with burs, chisels, &c.; then takes a little scoop shaped instrument and glass and examines carefully, to remove every particle of decay that may be chipped off, so that no loose particles remain in the bottom; others differ in practice. Having prepared cavities, regardless of shape, so that it is irregular, having strength of wall and freedom of access, the edges of the wall should be smoothed up, so as to give no opportunity for chipping off by pressure; having all prepared he cuts the gold into strips, folds up and twists into a loose springy rope, takes substance enough on point of instrument to form a base in the bottom, then in folds packs against the sides, walling cavity all around, just as a barrel is sustained by its own staves; begins next

to the gum, and packs to the top beyond the margin; uses a good amount of force; after filling perfectly full, wedges off in different directions; then fills in the cavities, leaving it to project; if any points are not full, drill out and fill in a piece of gold just as if it were a separate cavity, condense with an oval pointed plugger with large handle, dress up with file and burnisher; then with a piece of wood and prepared chalk, or pumice, this will cut rapidly and expose any imperfections; having all these corrected, go on and dress down with files, hones, &c., until you have a perfectly smooth surface.

Dr. STONE has a great variety of polishing and finishing instruments which he invites the members to call and examine at his office and of which he also promises to furnish patterns, to have made for sale in depots.

AFTERNOON SESSION—APRIL 25TH.

Second Topic—Fang Filling.

Dr. ROGERS: For a number of years all fang filling was satisfactory, now cautious in selecting only favorable cases; said he destroys nerve with arsenious acid, being careful to let it remain *only* long enough to destroy the pulp, immediately removes nerve, and requires patient to suck; introduces chloride of zinc, *deliquesced*, not dry, examines, and if sore, repeats injection of zinc; prepares fine pure wire and wrapped with cotton dipped into chloride of zinc, then uses in the fang like a pump or the piston rod of a syringe, until by the movements of patient is satisfied that it is at the point of fang; dismisses patient; cavity opened next day, if not inflamed fills fang and crown; thinks fangs *clogged* with creosote induces inflammation.

Dr. FOOTE thinks the reason given for using chloride of zinc, is the reason he would *not* use it, it being a caustic; eschews all escharotics, and fills a tooth as soon as he satisfied that all particles of nerve or tissue are removed,

that can be; but as small particles may be attached in crevices, therefore, after washing clean and stopping blood, for the purpose of rendering what remains insoluble, introduces a little creosote or tannin, then takes fine broaches hardened toward the point, point cut off, ground smooth, and uses as a plugger; takes foil No. 2, winds on the broach, and introduces to the point of the fang and condenses, then adds gold with larger points and fills the fang full; if patient is fatigued let him rest, otherwise proceeds and fills crown also. Sometimes it is very difficult to reach the point of fang, uses a drill made from piano wire, with point shaped like half of an acorn, but very small.

Dr. McCLELLAND fills a great many teeth in the fangs; three or four cases a week; can't say what proportion are lost; don't believe it is more than five per cent. of dead teeth. After finding nerve dead in tooth, first removes all soft tissue with a hardened broach, as near the point as possible; don't try to get through but occasionally does, uses broach, until cotton ceases to be stained; frequently uses hickory wood, in place of broach, and finds it valuable, if tooth is not especially sore; places a pledget of cotton saturated in creosote into the fang, seals with wax and lets it remain three or four days, then fills; but never fills until after it will stand a temporary filling without producing soreness; always fills fangs with gold, in small cylinders made on point of broach; never enlarges fang cavity; only cleanses and clears it, uses square drills beveled on one side.

Dr. TALBERT has done almost every thing that has been done, and one thing never will do again; has filled fangs with gutta percha supposing the plastic nature of material would allow him to do it better than with gold, but will do so no more, but *with gold only*.

Dr. DRIGGS had not much to say, although he performed many operations of the kind; but in candor selects only favorable cases, viz: incisors and cuspids; rarely bicuspids and molars; because of the difficulty of cleaning the fangs or

reaching the point; attempts to clean the fang as well as possible; wants to see in; can not be satisfied by feeling, but in some cases has been satisfied to fill only part way; or rather not satisfied that the point was reached.

Dr. PECKOVER prior to the meeting of the American Dental Convention at Cincinnati, did not attempt to fill fangs; has done so since, but occasionally failed, and teeth had to be extracted; has had patients call, who had teeth filled by others, which had to be extracted, does not believe the point of fang can be reached. Dr. Stone, Dr. McClelland, Dr. Rogers and Dr. Foote's remarks express his views; creosote introduced to the point of fang either destroys the remaining fragment of nerve, if any, or else congeals it, or stimulates the absorbents so as to take up all; makes no application to destroy pulp, but removes with barbed broach; never fills as long as there is any appearance of blood, or any secretion remains.

Third Topic—Alveolar Abscess.

Dr. ROGERS has less experience in that than almost any other branch; met a case of front incisor large cavity, very offensive, tooth dead, introduced a probe, cut the sac, followed with nitrate of silver, followed again by chloride of zinc, and in a short time had the satisfaction to see it apparently perfectly healed; very careful not to promise to cure abscess.

Dr. TALBERT drills right through the point of the fang, into the abscess, when it can be done; when not, then through the process to the point of fang, then treats with creosote, until healed.

Dr. GRANT felt much solicitude; read much that had been written, and heard discussions; treated many cases, one a fang of lateral incisor having been filled, abscess formed, filling came out; had been out about two years when application was made; undertook the case with doubt and apprehension; first cleaned fang to apex, lanced as described by

Dr. Talbert, and introduced creosote, repeated creosote several times in three weeks, perfectly healed, and tooth sound; cleaned again and treated with creosote and filled with gold; it is still in good condition. After nerve canal has been filled, and fears are entertained of abscess ensuing, makes application of horse radish on the gums, which calls the inflammation to the surface, protecting the mouth of course; used the same frequently in cases of pain (tooth-ache); after teeth are filled.

Dr. McCLELLAND uses a remedy which he thinks is as good, and more convenient of use; chloroform on a pledget of cotton, enveloped in dry cotton, so as not to blister, protects mouth with tin foil.

Dr. FOOTE uses electricity.

Dr. DRIGGS uses creosote in the treatment of alveolar abscess, and can in a few days heal up the external aperture; but thinks other treatment must be resorted to, to remove the cause, it being internal.

Dr. JUSTICE's treatment similar to Dr. Driggs, Grant and McClelland's.

Dr. PECKOVER uses a fig in the formative process of abscess.

Dr. STONE thinks alveolar abscess is nothing but the destructive process of a dead nerve; nature the meanwhile trying to throw it off. The vessels become expanded and the orifices become engorged. Treat the tooth, remove all the pulp, if any remains, wash out all the pus, and probe through the fang into the socket; inject creosote and it heals like any other sore; found for three weeks, every day, some discharge; continued to inject a little creosote every day until the sac was entirely destroyed. As long as any particle of the sac remains, it will be formed again, by inflammation, even after the filling.

Fourth Topic—Mechanical Dentistry.

Dr. FOOTE illustrated the modus operandi of preparing

casts, arranging the teeth and obtaining the articulation for the Vulcanite work.

TOLAND explained the relative merits of the different materials for Vulcanite work, viz: the rubber, coralite, and the Amber base.

Fifth Topic—Partial Dentures.

Drs. Peckover, Sen., Peckover, Jr., Foote, Driggs, and others, gave some experience of a valuable nature, resulting in the conclusion that the Vulcanite base is particularly applicable, on account of its perfect adaptation, and congeniality to the mouth and teeth.

Sixth Topic—Articulation of the Jaws for Full Dentures.

Dr. ROGERS after producing plates for upper and lower, places them in the mouth with wax between them, to procure the draft of about the space to be occupied, places small wires upon the ridge that may mark the proper occlusion of the jaws; requires the patient to open and close the mouth several times to see if the occlusion is correct; then removes from the mouth; then carve out the wax to accommodate the teeth, in the place indicated; arrange the upper teeth first, as it is more necessary to have the proper fullness of contour in the upper than in the lower.

Dr. FOOTE pursues the same course except the use of pins, but places only a few teeth on the plate at first, especially if the patient is convenient, then adjust the balance.

Dr. STONE remarked that Dr. Hullihen had great celebrity in this matter; he always fixed the bicuspid first, and finished from that point.

Dr. TALBERT: if you tell the patient not to put out the chin they are more likely to protrude it than otherwise. He has two modes of obtaining a correct articulation; first, let the patient be unguarded and keep him engaged in conversation, until they close naturally, then mark the place. If this does not answer, request the patient to swallow the saliva in

the mouth, which can not be done without closing the mouth in a natural way.

Dr. DRIGGS was formerly guided by the swallowing process, but has met with several cases in which it has utterly failed; but now depends upon conversation.

Dr. McCLELLAND finds difficulty in getting the patients to close the mouth naturally; in partial sets asks them to close the jaw teeth, which brings them about right.

With wax in the mouth, and muscles in repose, marks the wax for the length of the teeth, about the length of the upper teeth or a little longer; then requires them to protrude the chin, then draw it back, then to open and close as they will generally, close correctly; then marks the median line and position of the teeth; commences at the bicuspid, fastening the teeth to the plate by adhesive wax, then try in the mouth.

Dr. FOOTE had a case in which he got the lower jaw too far back. It was a lady who had been without teeth for a long time.

Dr. MOFFIT differs from others in getting the jaw back; never could get any too far back; after several efforts in requiring patient to open and close; if not right presses against the lower jaw, with one hand, the other on the head, and forces the jaw back.

Dr. JUSTICE first places a piece of wax in the jaws and lets the patient close them, biting; placing a small stick between the wax to bite upon.

Dr. PECKOVER has nothing especially new; pretty much the same as others; when he finds difficulty in getting a patient to close correctly, places teeth in the mouth and lets her walk about the room for five or ten minutes, look in the glass, &c., and then seats her again and makes them as they are; sometimes places pins in the upper wax requiring them to close so as to pierce the lower.

Seventh Topic—Miscellaneous.

Dr. JUSTICE relates a case of irregularity very interesting, asking the opinions of members as to the course to be pursued.

The discussions here became of a conversational character, of questions and answers, highly entertaining and interesting, eliciting some curious and valuable information, important to the profession.

Gentlemanly courtesy, liberality of sentiment, freedom of expression, characterized the meeting; indeed all seemed to act upon the principle of freely give and freely shall you receive. They seemed to feel that it was good to be here.

There seems to be no doubt but that this movement has fallen into good hands, and is calculated to do much good. A handsome representation was present; but none should have been absent. T.

Correspondence.

MESSRS. EDITORS:—New York city—it may not be generally known—is a place of some note, and is situated on the Island of Manhattan, near the town of Harlem.

It contains among its population *several* dentists, some of whom entertain the very singular notion that dentistry, as practiced there, is ahead of all creation, and that it is the Mecca where all that seek advancement or improvement, professionally, must come to worship.

Among the comparatively recent discoveries claimed as having been made there or thereabouts, may be enumerated *Sponge Gold*, *Vulcanite*, *Coralite*, and *Oxide of Zinc Fillings* under various startling and attractive names, such as *Odon-plasma*, *Osteoplastic*, *Os-artificial*, etc., etc.

The first is nearly worked out, so far as I can ascertain; the second is working up; the third has no defender since its discoverer left for new fields of culture, "fancy free;" the fourth is in a transitory condition, but earnestly advocated by its respective forefathers (for it seems to have had *four* or more), and very recently recommended by the publication in a dental journal, of an attractive article containing an exceedingly picturesque history—verging on the sublime—of its rise and progress; a history that reads like a romance, and that is calculated to fire the blood and intensify the imagination, reminding one of the march of the simoon in its flight—self-progressive and surmounting all obstacles that present themselves in its course; and in which is mapped out its track and happy approach to our hospitable shores and the protecting and fostering care of the great American eagle.

As a sample brick, here is the first and a portion of the second paragraph of the article referred to:

"Os-artificial Fillings.—The *debut* of novelties, like the *debut* of players, is hailed with great gusto by the community or profession that is supposed to be benefited by them. The halo that surrounds them during their state of novelty gradually disappears, when they assume a reality. Man, as an imaginative being, loves to look upon all things as they appear, not as they really are—a bare fact, a thing real, is but a skeleton; the vivid imagination throws in it and around it the viscera, blood-vessels, muscles, and vitality, and dresses it in a garb of beauty, and falls at its feet and unconsciously worships a thing of its own creation."

So much for *man* and his idiosyncrasies. Now for the *history*.

"Now, just ten years past the middle of the nineteenth century, a new thing has dawned upon the dental profession. It rose, as a bright star, far in the north of Germany, swept rapidly southward over Prussia, southern Germany, and France, and, like the German emigrant, scouring England's shores, struck boldly across the broad Atlantic to America, the father of dentistry, where it received a hearty welcome, and has already become vastly improved, and is rapidly passing from its state of novelty to a thing real. It has won its

way in nearly every dentist's office, from the Atlantic to the Pacific; and I venture to say no one who has tried the *material, properly prepared*, with an unbiased mind, would be willing to do without it," etc.

Please note how graceful the descent from the beautiful to the useful. Now, may I not ask, is not science eloquent, when a "*material properly prepared*" for temporary fillings should supply such an inspiration as is here evidenced?

In addition to the Quarterly Journal, which has been published for some time in New York, we have now "The Vulcanite," a new Quarterly, devoted to "Hard rubber" and dental mechanics generally, a worthy object, and therefore deserving success. But this is not all that distinguishes New York, for on a recent visit to this "proud Empire City," as a recent dental orator was pleased to term it, I had the pleasure of meeting an old friend,—a pioneer in the profession, both here and in Europe, a *dental millionaire* (what other city can boast of such?) whose annual income, I learned incidentally, was about eighty thousand dollars—not from his profession, be it understood, for he does not now practice, his son having succeeded him. I might violate the proprieties by giving the name, but will attempt a pen and ink sketch.

Picture to yourself a fatherly looking gentleman of, say sixty-five years; over an average height, say five feet ten inches, well built, well kept, and well conditioned, but not fleshy, and as straight as an arrow; gray hair and large gray beard, patriarchal in extent, well marked features, forming an intellectual face; as earnest a manner, as elastic a step, and with as much apparent vitality and vigor as a youth of twenty, add to which, a peculiarly prompt and hearty recognition of friend or acquaintance, and you have an outline of the appearance and manner of the man before you. Do you recognize the picture?

Hard Rubber.—I had some additional evidence, while there, of the availability of this substance as a base for teeth, particularly as regards its strength, and of its increasing use

by the pfeffession. I have suggested before in this correspondence, that the only apparent serious objection to it as a base was its dingy color, or imperfect representation of the natural gum, but this I was informed, it was expected would be remedied by experiments then in progress, and which, it is to be hoped, may be successful.

I very much regret to learn that Prof. Harris, who has been quite unwell for some months, is still unable to give any attention to his professional duties; and I am quite sure that all will join me in the hope that he may speedily recover, and be enabled to continue in the good work in which he has so earnestly and efficiently labored, that of professional progress.

The Japanese are now in this city, and of course, are all the rage. On Sunday, June 10th, the medical men attached to the Embassy were taken to witness a surgical operation for lithotomy, performed by Prof. Gross, assisted by a large number of sanguinarians. They are said to have been quite delighted with the bloody performance, and to have examined with great care and admiration the instruments employed, etc.

It will be remembered that while in Washington, the physicians there and these Japanese doctors had quite a *pow-wow*, and that the latter were inducted into the use of numerous *potent* remedies, including the high art of surgery.

Now, in view of these facts, do not your sympathies run out toward the poor inhabitants of Japan, when you reflect that on the return of these, their doctors, they shall have inaugurated the *heroic* practice learned of their more scientific and civilized brethren of North America? What a change! From laxatives to the lancet; from poultices to poisons; from simple remedies to surgical operations. The picture is too sad to contemplate without pain, and I forbear. Yours,

PHILADELPHIA, June 13, 1830.

O. U. C.

Selections.

BUCCAL INFLAMMATIONS.

Diseases of Crystal-and-Glass Cutters; Monograph of a Peculiar Buccal Inflammation not hitherto described.

(Translated for the Dental Register, from "L'Art Dentaire.")

BY DR. PUTEGNAT, OF LOUISVILLE.

M. Putegnat calls the attention of medical men to a disease of the gums, peculiar to certain artisans, that has not before been described. After having inspected the workshops of the *Crystalry* at Baccarat, and having examined the conditions of the male and female operatives in these glass works, M. Putegnat makes the following monograph of an inflammation of the gums, not before known :

"A loathsome affection, little serious in itself, but liable to serious consequences, as we shall hereafter prove, is so common in certain crystal works at Baccarat, that, without any fear of exaggeration, we may affirm that, if all the operatives in these shops do not present traces of it, 95 in 100 of them have it developed to a considerable degree. The man of the best constitution, the most robust, derives no advantage from his temperament; he whose complexion is vermilion; who, in all other respects, enjoys excellent health; who commits no excesses, who is temperate, well fed, healthfully lodged, in easy circumstances, and who neither chews nor smokes; he is no more exempt from this disease of the gums, than the cutter who is lean, bloodless, lymphatic, dissolute, poor, badly fed, miserably lodged, and who makes an excessive use of tobacco. It is enough that they are both cutters at Baccarat. At the end of a sojourn of three months in the cutting shop, they exhibit traces of the malady; and at the end of six months, the symptoms become unmistakable.

"In general, this affection commences and is more severe on the upper jaw. Why this predilection? I do not know. The mucus (mucous membrane?) reddens; its tint becomes a blackish blue, more deep as it approaches the edges bordering on the teeth; and this color forms kinds of arches that represent the alveoles. It is not that which is found on the gums

of workers in lead, and it is extremely difficult to give an idea of the difference which exists between these two morbid colorations; actual inspection or the painter's brush alone can do it; so that he who has seen the narrow bluish border of the gum which is the result of poisoning by lead, will not confound it with the arches of a peculiar shade, and of which the interdental pillars are more dark as they approach the free border which this inflammation presents. From what we have just said, it is also manifest that this fascia does not resemble that nacreous one which, according to MM. Ranque, Négrî, and Michel Levy, is a certain sign of the arrival of atoxy in pneumonia.

"The gums swell, especially toward their dental border, which forms a festooned pad. They but rarely furnish tartar, and even then in small quantity; but an acid secretion which, escaping from their free border, is not long in impairing the enamel of the teeth. From thence it results that the anterior or external portion of the teeth, especially the incisive and the superior, where they join the gum, appear at first uneven, then punctured with blackish points, and at last of a dirty black. This color indicates the necrosis of the osseous part of the tooth, and consequently the destruction of the enamel. Arrived at this stage of alteration, the tooth wears away at the neck, particularly from without inward by caries, and ends by breaking off level with the alveolus.

"Thus, in the case of these artisans, the teeth, unlike what happens in scurvy and certain inflammations of the gums, in consequence of the shrinking of the gum and the impairment of the interalveolar mucus (mucous membrane?) do not become bared, nor get loose and fall out, but break off even with the socket. It is thus evident why these men, after a few years' stay in the cutting shops, have, instead of teeth, no more than round and blackish stumps.

"After the breaking of the teeth, the gums, as may be readily conceived, continue to be diseased. Around the stumps, they present a slightly flabby and sanious condition, which renders the breath, not horribly mephitic, as in the case of scorbutic, mercurial, and certain other ulcerations, but insipid, sickening, sometimes to such a degree that the atmosphere of the cutting shops presents a repulsive odor, and almost occasions nausea.

"This inflammation produces neither heat, hemorrhage, nor itching, and no pain to the touch and during mastication;

besides, the majority of the cutters, although they have had it for long years, are ignorant of their affection."—*Presse Medicale Belge*.

(Translated for the Dental Register from "L'Art Dentaire.")

DENTAL FISTULAS.

Temporal Fistula, occasioned by one or more molar teeth abnormally developed near the ear. Operation. Cure.

I operated in this manner: The fistula being on the left, the animal was necessarily laid upon the right side; a bundle of straw placed under the neck and shoulders raised the top of the head; the hair having been cut off, I made in the temple a crucial incision of from three to four centimetres, and detached, with the double-sage leaf,* the skin of the osseous wall, to which it firmly adhered. The skull being rendered thin in this place by the presence of the foreign body, I easily removed a piece of it with a strong pair of forceps and the frog.† I afterward endeavored to introduce into the fistula thus enlarged, solid levers of different forms and sizes, and succeeded, without too great difficulty, in inserting one strong enough to make a few twisting movements, so as to *unbezelt*‡ the tooth which I had to extract. Then shortening as much as possible the arm of the lever between the point of support and the resistance, in order to operate upward and keep from compressing the brain, I succeeded the first time in fetching out a sufficient portion of the foreign substance to be seized with the pincers. But the tooth could not yet be extracted with this instrument, and I had to introduce the lever anew, and pass it around in all directions to effect the evulsion of this production. The extraction of this abnormal tooth left a deep cavity in the osseous wall, which was almost entirely smooth. I assured myself that there was no tooth wanting in the mouth.

All the temporal fistulas that I have observed, were occasioned and supported by the presence of one or more molars, which filled the place of foreign bodies; and those which I have extracted all had the crown turned toward the skull; it

* Anna's of Veterinary Surgery.

† Ibid.

‡ Ibid.

is always this part which is first brought out, and, though usually deformed, it is not difficult to distinguish it from the root. The enamel which envelops it, prevents it from being confounded with the root, which has no enamel. The root takes very diverse forms, but in general it is round, swollen, and distorted, like that which I send you with this note.

Of the fourteen horses upon which I have operated, thirteen have been completely cured at the end of from ten to fifteen days, without any other care than cleanliness. The fourteenth has been operated upon twice, with an interval of three months, and each time I have extracted a molar. Instead of the fistula, he carries at present a soft tumor, a cyst, of the size of a small egg, the inner wall of which secretes a gluey, albuminous, and transparent liquid. When the sac is full, the liquid flows out through a very fine duct which opens toward the middle of the anterior rim of the ear. I have pierced this tumor several times, and injected tincture of iodine into it; I have introduced the hot iron into it; have passed a seton into it, without result; the seton being removed, and the openings cicatrized, the abnormal secretion soon re-appeared. It is to be presumed that a third tooth is tending to make its way through by the same opening.

I might have enlarged more, and considered some particulars relative to each of the cases presented to my observation and the different modes of operating which I adopted; but I think that the details which precede, will suffice to give to my *confreres* who may not yet have examined it, a knowledge of the temporal fistula and of its treatment.

I now inquire why the temporal fistula always has its seat in the same place—why it shows itself on the right or the left side? Why do the teeth, which are the determining causes of the fistula, always take the same direction? Why do they push up toward the top of the head, rather than show themselves in the mouth? I shall not attempt to solve these questions; I confine myself to propounding them. I shall say only as to the direction impressed upon these productions, that it seems to me to be the result of a kind of retroversion of the dental embryo. Accept, etc. J. MACORPS,

Veterinary Surgeon to the Government.

ARTIFICIAL DENTURES.

BY DR. JOHN ALLEN.

LOWER sets of artificial teeth are often more difficult of adaptation than upper ones, owing to the great amount of absorption that may have taken place on the lower jaw, leaving scarcely any ridge or foundation for them to rest upon, and in some instances the place where the ridge ought to be, there is only a deep hollow, with muscles, ducts and glands, almost closing over it on either side. These tend to buoy up the denture and keep it afloat in the mouth, which renders it useless, if the plate is so wide as to rest upon them.

In order to overcome the difficulty when such cases occur, the impression should be taken with great care to prevent the inner folds of the cheek from overlaying the alveolar ridge, or hollow. These folds can be easily raised and moved outward with the fingers when the impression is being taken. After the impression has become hard, it should be trimmed so as to form a very narrow bed, from which to form the plate. When the submaxillary ducts, sublingual glands, or their connecting fibrous tissues, raise above the hard ridge, when the tongue or muscles are moved, the base should be so narrow as to allow them to pass up on the inside of the plate and the teeth without dislodging the denture. For such cases the plate should be very thick and narrow, with smooth round edges, and the teeth should be quite thin.

HOW LONG, AFTER THE EXTRACTION OF NATURAL TEETH,
BEFORE AN ARTIFICIAL DENTURE SHOULD BE INSERTED.

From one to two weeks the writer deems sufficient time, under ordinary circumstances, for the patient to go without teeth; and in many instances even a shorter period would suffice.

But as there is a difference of opinion upon this point, we will present the different theories and submit to the reader their claims to supremacy. The objections urged to an immediate insertion of a denture are: that the gums will not become smooth and symmetrical if a plate be fitted to them before the alveolar processes have fully absorbed, but will conform in a greater or less degree to the irregularities of the temporary plate, and prevent a good practi-

cal result; consequently they advise their patrons to go without teeth at least one year.

This theory we think, erroneous, because the slight undulating surface of the gums which the plate may have occasioned, presents no valid objection; for a permanent plate can be fitted to them just as perfectly at the expiration of one year, as if a temporary plate had not been worn, and the wearer will have become so well accustomed to artificial teeth, that the second set can be worn and used at once without difficulty, if properly constructed.

Again, the longer the natural teeth have been out, the harder it is for a person to acquire the use of artificial substitutes, for the lower jaw is thrown forward of its natural position, the lips become compressed, the muscles of the mouth and face contracted, and the tongue habituated to certain movements in munching food, which tend to dislodge the dentures when attempting to use them, and the original expression in many instances is lost.

The advantages of an immediate insertion of artificial teeth after the removal of the old ones are,

1st. The patient will acquire the faculty of using them satisfactorily in much less time than if required to go without any teeth until the healing of the gums and absorption of the alveolar processes have taken place.

2d. The original expression can be much better preserved, as the denture prevents that compression of the lips, and contraction of the muscles about the mouth and face, which the absence of the teeth will cause.

Temporary sets should be as skillfully made as permanent sets. There are many operators, however, who insert cheap and rude temporary sets of teeth, who seem to attach but very little importance as to how they are constructed, for they are only intended to be worn a year or two, which is deemed a sufficient apology for poor work. The price usually paid for temporary teeth will not justify the use of the best materials, nor the highest degree of skill and taste in their construction. This is another reason for cheap work.

Here is an error that ought to be corrected, for in this way the patient has but a miserable substitute for the natural teeth, and is often subjected to extreme mortification at their rude and uncomely appearance and want of utility.

Again, the dentist often looses cast by this kind of work, for

a poor cheap specimen is often looked upon by others as a fair sample of the skill of him who made it. Although the inference may be very unjust, yet it tells against him. We think reform in this respect would prove mutually advantageous to the patient and operator.

Instead of this cheap graceless work, let the first set be as good as the second, or as near it as the case will admit, and let the charges be based upon terms of equity. Then the patron will be better served and better satisfied than with a rude fixture, devoid of the essential requisites of an artificial denture; for however perfectly formed and adapted artificial teeth may be, they usually meet with stern resistance when first inserted, (especially full sets,) for the tongue, muscles, glands and ducts, all conspire to eject them from the mouth as unwelcome intruders. They seem not to have forgotten the old offenders that used to create such painful sensations in their neighborhood until they were all exterminated, since which time there has been comparative peace.

But the sterner will can subjugate all these opposing forces and establish harmony, provided the dentures are rightly formed, which is the condition of the compromise. The tongue will then acquire more cautious habits, and avoid those movements which at first would send them whirling out of the mouth, for the tongue is the first to repel invasion, it does not like to be restrained. The contiguous muscles, ducts and glands, also require freedom of action and they must not be infringed, for this is nature's law. But if their natural movements and functions are provided for, then the teeth will be permitted to remain quietly in their proper places and subserve the purposes for which they were designed.

But still, even with the most perfect set of artificial teeth there will be in many instances a stiff and restrained feeling and appearance about the month, when first inserted, that time only can remove, especially if the natural teeth have long been out. Patience and perseverance will, however, entirely overcome the difficulties that at first appeared so formidable to a new beginner.

The above article contains ideas and suggestions that should be carefully considered by every dental operator.

The idea has been generally entertained, that nine to twelve months should elapse after the extraction of the natural teeth before introducing substitutes. We have for several years

entertained the opinion that this is not the best practice. This article presents some of the advantages of inserting teeth soon after the removal of the natural organs. It is true that when a plate is inserted immediately after the extraction of the teeth, the gums may not absorb as smoothly and evenly as though a plate had not been worn, while the process of absorption was going on. This, however, is a decided advantage and not a disadvantage as has been supposed. A plate will retain its position far more firmly on a rough than a smooth gum, if as well adapted; and it is about as easily adapted.

When a person is without teeth for a considerable time he, of course, loses facility of use. After the teeth are all removed there is no resting point for the jaw, and by a relaxation of the muscles, it attains a lateral motion, that is always exceedingly annoying, when the patient attempts to use the teeth for mastication. We are familiar with cases of this kind, where teeth have been worn for several years, and affording but little service for mastication. We have yet to find the first case in which teeth were inserted soon after the natural organs were removed, that did not answer a valuable purpose for mastication. It is a popular notion that if plates are put upon the gums before they are healed, they will be made very sore, and continue so.

Experience warrants us in saying that no more soreness is experienced by wearing plates than though they were not worn.

When the teeth have been out for a considerable time the tongue attains a latitude of movement that is rather difficult to control, when artificial teeth are placed in the mouth; under such circumstances there is difficulty in speaking. A patient after wearing a temporary set of teeth in the mouth for nine months or a year, which by absorption of the gums fit very imperfectly, will appreciate a good, permanent, well-fitting set of teeth, and will use them with facility at once.

[ED.]

CASE OF ABSCESS OF PAROTID GLAND.

REPORTED BY J. LYKINS, M. D., OF KANSAS CITY, MO.

In August, 185—, Mr. J. J. a respectable farmer, aged 45, was attacked with congestive fever, ushered in by a chill. Upon the invasion of second chill, I was called to see the patient. Found the extremities cold, pulse hardly perceptible, patient unconscious, passing involuntary stools, etc. By the most prompt and energetic treatment, after three hours effort, pulse rose and fever set up.

2nd day.—Kept patient under the influence of free portions of quinine, remained with him three or four hours, preceding and during the time of expected chill; patient escaped both chill and fever, and was dismissed as requiring no further treatment.

4th day, 4 o'clock P. M.—Was called in great haste to the patient, found him suffering most intense pain, and upon examination found its seat to be the Parotid Gland, which proved to be slightly enlarged and too painful to be touched. The patient having been subjected to a vigorous treatment of sub. mur. hydr. and sulph. quin. in order to break up the fever, was put upon the use of saline cathartics and the usual lotions externally.

6th day.—Jaws fixed, gland greatly enlarged, general tumefaction much increased, jaws too rigid to admit of anything entering the mouth except fluids; patient delirious. Prescribed castor oil to be followed by quinine, external applications the same.

7th, 8th, and 9th days.—Treatment continued, left eye closed by swelling, articulation suspended.

10th and 11th days.—Prognosis hopelessly unfavorable; called in Drs. Boggs and Caldwell, both of whom agreed without hesitation, in pronouncing the case one of abscess of the parotid gland, supervening upon the congestive stages through which the patient had passed during the first attack.

12th and 13th days.—Tumor purple; first indications of pus deeply seated.

14th day.—Minute portions of purulent matter escaping from the ear, with indications of pus pointing over the centre of the gland.

15th day.—Introduced lancet, pus was reached easily, but escaped slowly.

16th day.—Patient feeble, discharging enormous quantity of dark, morbid bile, from the bowels; no relaxation of the jaws; treatment continued.

17th day.—Plunged lancet into the tumor, anterior to the ramus of the lower jaw, below the masseter muscle; as before reached the pus; but it would not flow. Flax-seed meal poultice applied.

18th, 19th, and 20th days.—Pus tenacious, escaping slowly, skin sloughed away below the ear to the angle of the lower jaw, exposing viscid pus adherent by cellular tissue, and resembling end of grass rope.

21st and 22d days.—Jaws slightly relaxed, swelling abated partially, patient desires food, is more rational.

23d, 24th and 25th days.—Slough enlarged, discharge exceedingly offensive.

26th, 27th and 28th days.—Takes soup freely, and desires meat, improving; tonics continued.

29th, 30th and 31st days.—Opening under the ear enlarging pendant from which hangs the suppurating inferior portion of the parotid gland. Attempted to cut it away with Surgeons' scissors; so resistant as to cause the scissor blades to chew; left side of the face paralysed, and cheek drawn aside.

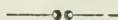
32nd and 33rd days.—Patient rapidly improving, jaws are partially moveable; succeeded in removing a portion of destroyed gland, which brought away with it the trunk of the portio dura and its branches temporo facial and cervico facial, the external carotid artery, etc.

34th day.—Patient continues to improve; gland slowly coming away. This continued many weeks; at last the ulcer healed, and the patient regained his health.

Happily for us this patient now resides near our city, and to an examination of the cicatrix, and to the evident absence of the parotid gland, I beg leave to invite the attention of the Editors of this Medical Journal. I do this with the more interest as Dr. Titus Deville, in the *Chicago Medical Examiner*, has denied that the parotid gland is liable to disease, and has thereby in my opinion, convicted himself of the ignorance which he has charged upon Prof. Brainard.

Dr. Caldwell, of Independence, a most intelligent physi-

cian at the time of the above related case, informed me that he had in this country witnessed two cases of abscess of parotid gland, consequent upon congestive fever, both of which proved fatal.—*Kansas City Med. and Surg. Review.*



USE OF CHLOROFORM AND ACONITE IN NEURALGIA.

In a letter to the *Medical Times and Gazette*, Dr. Gueneau de Mussy writes.—

“For more than three years I have prescribed in neuralgia of different regions; but here I want chiefly to allude to the most common and severe of neuralgic pains—the facial neuralgia—in which I have derived from the above named remedy sometimes a complete and permanent cure, and always an almost immediate and considerable relief. In such cases I apply it directly to the gums of the side affected, where numerous divisions of the fifth nerve are most superficial. When the neuralgia is idiopathic—*i. e.*, unconnected apparently with any other disease—the formula is:—Two parts of spirit of wine or eau-de-cologne, one of chloroform, and one of tincture of aconite. The finger, covered with a piece of lint or soft thick linen, is dipped in the mixture and rubbed gently against the gum for a few minutes. I do not use a sponge, because it would take up too much of the liquid, which, by pressure, might drop into the mouth.

“When the pain is connected with some organic disease, as a deranged tooth, chronic inflammation of the gums or of the sockets, or, as I have observed, superficial necrosis of the bone, I have found the tincture of iodine a very beneficial substitute for spirit of wine in the formula above.

“The infra-orbitary branch being the most commonly affected, it is chiefly in neuralgia in this part the application has been successful; but by no means exclusively so—it answers very well in pain of the lower branch; and I have observed some very severe cases of supra-orbitary neuralgia, in which the same application has been attended with an equally satisfactory result.

“This shows, moreover, that the sedative agent may produce its effect, as the irritating one so frequently does, on a part distant from the spot on which it was applied in the same, and even in a different branch of nerve.”—*Chicago Medical Journal.*

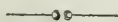
PERISCOPE—FATALITY FROM CHLOROFORM.

Dr. Kidd, who has given much attention to the subject of chloroform, has observed that deaths attributable to its inhalation have occurred more frequently during the performance of the minor surgical operations. The statistics of deaths from chloroform certainly show a much greater proportion in the performance of trifling operations, as of 85 fatal cases in which the nature of the operations was recorded, 10 were extractions of teeth, 14 removals of toe nails and operations on phalanges, while of this number none occurred in the performance of the large amputations, resection or ligature of large arteries, etc.

Dr. Kidd has therefore hastily concluded from these results, that "chloroform is safer in large than in small operations." He seems to have overlooked the fact of the vastly greater frequency of the performance of small operations, and of course the more frequent administration of the anæsthetic, which is, we believe, sufficient to account for the apparent greater fatality attending minor operations.

Dr. Kidd estimates the number of deaths from inhalation of chloroform to be about one hundred. We think that if this number had been quadrupled it would more nearly approximate the truth. Chloroform never gained general confidence in this country, and its use has within the past few years rapidly declined, yet the deaths referable to it would probably equal one half of Dr. Kidd's entire estimate of fatality from it.

The European origin of chloroform inhalation and its distinguished authorship, has given it a confidence which cannot long be maintained in the face of such uncontrollable mortality, and while the causes of sudden death from it are so little understood.—*Medical and Surgical Reporter*.



Alarming Symptoms caused by the Displacement of Artificial Teeth during Etherization.—Dr. Warren reported the following case: He lately had occasion to etherize a lady, 35 years old, in order to examine a painful tumor of the leg. She came quietly under the effects of the ether, but did not arouse afterward. The pulse was good, and there were no symptoms of dyspnœa. She gradually became purple in the

face, was quite insensible, and seemed to be passing into a dying state. Introducing his fingers into the mouth, in order to draw the tongue forward, Dr. W. found a complete set of upper teeth, attached to a gold plate, deep in the fauces. This was removed, the fauces irritated, the patient rubbed, &c., and at last vomiting was brought on, and she revived. She soon became violently delirious, uttering shrill cries, and beating herself for an hour and a half. For the next two hours she was in a croupy state, from the violence of her efforts, but in the course of the evening she gradually recovered, though she remained hoarse for two days. Dr. W. observed that the accident was one likely to occur under such circumstances, and showed the expediency of removing artificial teeth before proceeding to etherize a patient.

Dr. Parks alluded to a case which he had already reported to the Society, in which a patient experienced severe symptoms of suffocation, caused by unconsciously swallowing a set of false teeth, during sleep, which had lodged behind the glottis. The symptoms were immediately relieved by the removal of the foreign body.—*Boston Med. & Surg. Journal.*



ADVENTURE WITH THE FILE.

BY GEO. S. FOUKE.

Experimental dental life is *sacred*. But there are occurrences of a character that may be spoken of without violating professional obligations of this *sacredness* to our actual or *unactual* patients. *Unactual patients* are such as call on the dentist to have their teeth *fixed* according to their *own ideas*, and not in accordance with the *notions* of the *tooth doctor*. This class of patients, however, are, thanks to the spread of "*true dental knowledge*," becoming "*small by degrees and beautifully less*."

There are some things, then, we *dare* speak of, that, if brought out in stereoscopic life-like realities, would interest, if they did not instruct, the professional as well as the unprofessional eye. We often recur, in our imagination, to an adventure we had once with the file; and inasmuch as this instrument is still a *vexata questio* among dentists, we shall ask the Examiner to look at a *stereoscopic view* of this bit of experience, in a by no means uneventful dental life, hoping

its bearing on the disputed question will be fairly appreciated and duly improved.

In June, 1855, a mother and her daughter (smartly past *sweet sixteen*) came to us for dental service for the latter. They were very genteel in appearance, and commanded our respectful attention. Indeed their calm dignity and composure of deportment had the effect to awe our natural *taciturnity* into involuntary *silence*. The mother announced very soon the object of their visit. "My daughter wants her teeth *plugged*." *Pantomimically* we conducted the fair one to the chair. She maintained the utmost self-possession, and we thought here was one ready to pass *unminded* the dental ordeal about to be enacted. The mother took a position to view serenely the course of "coming events." *These* (fortunately!) did not "cast their shadows before!" If they *had*, this *picture* would never have been.

The glass mirrored what even a *true* dentist does not like to see—an entire denture almost ruinously decayed for the want of timely operations, which would have saved the teeth for the comfort and well-being of their possessor.

As we were gazing, *sickened* at the sight, we imagined we heard *Miss Pulpa Dens* faintly sighing, and saying: "Ah, thou friend of the *Dens family*, thou seest the ruin that has come upon my brothers, *Enamel* and *Dentine Dens*, in consequence of the long and cruel neglect of those whom nature has assigned as our possessors and guardians! Pity us; save us, if you can, from utter destruction! We belong to those who know not our real wants. They have strange ideas about the teeth and dentists. They think dentists ought to have to earn their money 'like other people!' They think *cavities* should be large, then the dentist would not only have a *good*, but a *safe* place to deposit his *surplus* gold! O doctor, pity us, and do something to save us, if you can!"

As we removed the mirror from the mouth, the mother again spoke: "Doctor," says she, "it is the front teeth that need *plugging*—not the back teeth, doctor; they are not decayed enough yet for *plugging*; it is the front teeth that want *plugging*!"

Shades of Hayden! Not decayed enough yet! We felt some relief, however, in having our attention limited to the front teeth; and although these were decayed *infradentally* on all proximates, yet we hoped, as they possessed great *masculinity* of form and structure, we might be able to benefit

them by plugging ; so we braced ourselves up for doing our best in *depositing* some surplus gold.

Our examination showed a craggy piece of epienamel, overhanging the proximate of its incisorial neighbor, and which offered a serious obstruction to operations upon that particular locality. We determined to remove this for the first thing, and picked up a file for the purpose. Turning to our fair patient, we reached out our hand which held the file, at which moment she seized our hand, and uttered a stern command to "stop !" This was quickly followed by "*what is that?*" and "*what, do you plug teeth with that?*" Drawing back from our patient, we were just breathing out a faint affirmative, when the mother spoke for the third time:

"Her father, sir, gave us express orders not to allow her teeth to be filed, or to be touched with the instrument. He is very much opposed to filing teeth. Dr. Anti-Fil(e)libuster, a distinguished dentist in B——e, won't file teeth, and thinks it is '*a sin*' to file teeth. He told her father never to allow any dentist to file any of our teeth. If you, sir, *plug* teeth with *that*, (looking *daggers* at the file in our hands,) we had best have nothing done now."

"Certainly, madam, *nothing* had best be done now," responded we, very happy to be thus *foiled* in carrying out our *fil(e)libustering* propensities upon these four wretchedly decayed incisors.

Wonder who they found to *plug* those teeth, and to *confirm* them in their prejudice against the *horrid* file?—*Southern Dental Examiner*.

ADVICE TO PATIENTS.

BY J. S. LATIMER.

Those theorizings on the predisposing causes of diseases incident to the dental organs, are well enough among the *profession* ; but they are very far from being of any practical value to our patients. I have reference, here, to those primary causes, such as the intermarriage of persons with jaws and teeth differing greatly in size, by which irregularity is often produced in the offspring, as well as to those conditions of the mother, during gestation and lactation, by which is regulated the amount of earthy salts in the teeth of the offspring.

For the next hundred years, at least, the influence of dentists, in this direction, will be confined to their own households. But, if we can not prevent the *predisposition* to disease, we can recommend to our patients such hygienic treatment as shall (if strictly followed,) be greatly beneficial.

It is not less our duty to our patient than to ourselves, to administer proper advice, even unasked. Patients are seldom properly impressed with the importance of preserving the dental organism perfect, and they are generally grossly ignorant of the causes which produced disease. As a general rule, the attention paid by any set of persons to their teeth, is a fair index of their enlightenment.

In general medicine, taciturnity and secrecy *may* add to the practice of the physician—in dentistry they never can.

If a patient calls upon us with teeth encrusted with tartar, he should be informed how tartar is deposited, and how it produces disease and absorption of the gum and alveolus, by which the teeth are ultimately loosened and lost. He should then be informed of the method of curing and of preventing a recurrence of the difficulty.

No *really professional* man will *urge* his services upon the patient; but, having stated the facts fully and plainly, will await the decision.

If carious teeth are to be treated, and the organs are found to be of a “chalky” texture, or, if any are so badly decayed as to render the chances of preservation, for any considerable time, rather dubious, the patient should be informed of the facts, in order that the operator and his profession shall not be held responsible for more than is just.

“*Cleanliness akin to godliness,*” is the motto which should be urged upon our patients; for, without it, there is no salvation for our plugs, however perfect they may be; and, when our plugs fail, from whatever cause, the teeth and our caste are lost together.

But, right here is a difficulty; the profession is not consistent with itself; in other words, operators differ in opinion with regard to the best method of preventing decay, etc. One recommends hard and another soft brushes, while a third ignores brushes altogether. And the same difference of opinion prevails with regard to the employment of dentrifices, the removal of temporary teeth, the treatment of exposed dental pulps, etc.

The tendency of this disagreement is to lessen the confidence of the public in dentists and dentistry.

I am aware that dental schools have a tendency to enlighten dentists and to produce uniformity of opinion, and that the periodicals of our profession serve to break down those theories which are not founded in science; yet, in order that the discussion of the theories on which our every-day advice is founded, I propose to give the principles on which *my* advice is based, hoping others will follow me.—*Southern Dental Examiner.*

PRACTICAL HINTS.

BY J. D. WHITE.

Almost daily experience shows that there is very little sound judgment exercised in the operation of extracting teeth, especially in cases that apply for the operation in the alleviation of toothache. When a patient applies for the extraction of a tooth, while suffering from pain, and we can relieve the case without removing the tooth, as a *rule* we do so. There are very many circumstances to be taken into consideration, however. If the patient has never had a tooth extracted and is very young, whether it be a deciduous tooth or a first molar of the permanent set, it is not judicious to attempt its extraction at once, unless it be to prevent some great impending danger. The *moral* influence upon the patient may be such as to injure him much more than the pain from the tooth. It is not unfrequent that the patient has been assured by those in whom he placed confidence, that he would suffer no pain: under such circumstances, the tooth should not be extracted. Palliate the pain, or at least make an effort to do so; as a general thing, this can be done, if it be from exposed pulp or incipient abscess. If the patient discovers that this can not be done, he will much more willingly submit to the operation without it having any unfavorable influence on the mind. Besides, if the tooth can not be removed with certainty, it should not be attempted, either with young or old; the dentist always receives much more censure for failing in this operation than any other. Sometimes the patient's nervous system is not in a condition to undergo the operation, especially if it were to be prolonged.

We have not been caught for many years in making more than a second attempt to extract a tooth, owing to the fact that we observe the greatest circumspection. We estimate the chances of getting hold of the tooth or root, and the *nerve* of the patient to endure pain. Before we believed that it was *not* our duty to attempt to extract a tooth for a patient under any circumstances if the patient suffered pain or inconvenience from bad taste in the mouth, or a difficulty in keeping the mouth clean, we got into many a serape. It would be endless to enumerate the cases we know and hear of, where the dentist has tortured the patient for hours, and been at last obliged to abandon the operation. We make it a practice to wait until the tooth is in a *condition* to be extracted. This may sound like timidity or shrinking from our duty by "tooth pullers," but we have the vanity to believe that we do not often fail to do our duty. It is true that many do not do their duty by attempting what must end in failure. It may be inquired, what does it mean, to get a tooth in a condition for extracting? We will answer, that if a tooth has decayed much below the border of the alveolus, except the merest shell, and the gum and socket are too hard and too strong to be cut away, it is better to break down the projecting shell or crown and wait for the roots to loosen and rise from the sockets, as they will do in time by the morbid condition of the periosteum, and the absorption of the gums and alveolar border. It often happens that teeth are decayed to the pulp before they are fully erupted, and it is difficult to get to the neck with the forceps.

We do not mean that the dentist shall take no risk in attempting to extract a tooth in extreme cases. We always estimate the difference as well as we can between the chances of success in extracting a tooth, and the amount of suffering it may cause by letting it alone. A case or two may illustrate what we mean. A gentleman called to get a tooth extracted a few years since; it was the left inferior wisdom tooth; it was strongly imbedded in a strong and heavy jaw, with little room between the second molar and the ramus of the jaw. It was a case of exposed pulp; we applied the arsenical paste to destroy it, but the patient left us and immediately called upon another dentist to get the tooth extracted, not being satisfied with our treatment. The dentist was a young man, and attempted to extract it. After trying for a long time, he failed to succeed. He called his father, who

was a much stronger man, and he failed also, but not until the patient became exhausted, when it was abandoned. The patient was laid up from the effects for several days; we have always operated for the gentleman and his family since. Another case occurred of a lady, who annoyed us very much to get rid of a lower inferior first molar, which was decayed very much, and the gum and alveolus very strong, and the patient nervous, and not able to bear much pain. She finally applied to a dentist, took ether; but the dentist failed to extract it. The parts were much injured in the attempt. The patient applied to us in great suffering; we touched the margin of the gums with nitrate of silver in the stick, which reduced the irritation of the gums and relieved the pain in a few days. We applied the same treatment again, until a considerable portion of the gum was destroyed and absorbed. In this way the sensibility of the parts was reduced, when we cut away the alveolus and extracted the root with ease.—*Dental Cosmos.*

CARE OF THE SICK.—Not to allow a patient to be waked, intentionally or accidentally, is the *sine qua non* of all good nursing. If he is roused out of his first sleep, he is almost certain to have no more sleep. It is a curious, but quite intelligible fact, that if a patient is waked, after a few hours' instead of a few minutes' sleep, he is much more likely to sleep again. Because pain, like irritability of brain, perpetuates and intensifies itself. If you have gained a respite of either in sleep, you have gained more than the mere respite. Both the probability of recurrence and of the same intensity will be diminished; whereas both will be terribly increased by want of sleep. This is the reason why a patient, waked in the early part of his sleep, loses not only his sleep, but his early power to sleep. A healthy person who allows himself to sleep during the day, will lose his sleep at night; but it is exactly the reverse with the sick generally; the better will they be able to sleep.—*Miss Nightingale.*

Associations.

CINCINNATI DENTAL ASSOCIATION.

A regular meeting was held at the office of Dr. Richardson on the evening of June 12, 1860. *Present*—Drs. Taft, Richardson, Davenport, Wardle, Wells, and H. A. Smith.

Minutes of former meeting were read and approved.

Dr. H. A. SMITH read an essay on the subject of filling teeth. This being the question for debate,

Dr. TAFT said, in answer to the question to what extent the borders of the cavity should be cut away when they were thin and nothing remained but the enamel, that this depended somewhat upon the relative strength of the enamel substance. In some cases, the enamel was soft and friable and easily broken away, while in others, even a thin plate of enamel would resist a considerable amount of force, and he had frequently, in order to strengthen the walls of the cavity, where he feared they would be broken in consolidating the plug, moulded gutta percha over the tooth up to the edges of the cavity. In this way he filled cavities with thin walls with a feeling of security. The amount of pressure, he remarked, necessary to consolidate the plug, depended upon the size of the points of the pluggers used, and also upon the size of the pieces introduced for the filling.

Dr. SMITH remarked that he was in the habit of cutting the walls of the cavity down, if practicable, until they presented a strong edge. The manner of filling the cavity would modify this to some extent, however. If blocks were used, more of the walls of the cavity would be required standing to retain the filling in place, than if adhesive foil was used. In block filling, the retention of the plug depended upon the several portions of gold introduced being kept bound together by the opposing walls of the cavity. But if adhesive foil be

used, the plug being one solid mass, will be retained in a cavity comparatively superficial, if care is taken to secure well the first portions introduced. The borders of the cavity are much more liable to give way if blocks were used, but he would use this method in cases only where there was enough strength of wall to allow of sufficient pressure to insure a hard plug.

Dr. RICHARDSON described his method of filling crown cavities. If the cavity was of a considerable depth, he first introduced blocks of a length sufficient to fill one-half of the cavity. He first forms two opposing retaining points, in which he forces his first blocks, after which he introduces others in the usual way—consolidating them thoroughly—before he begins to fill the remainder of the cavity, which he does with adhesive foil. Does not think a filling made in this way as solid as if adhesive gold was used alone. He was led to adopt this method because he did not always succeed when starting a cavity with adhesive foil, in securing the first portions, so with retaining pits, that the entire mass of gold would not move in the cavity before the operation was finished. A tooth could be filled in this way in much less time than by the other method, and could be made sufficiently solid for all practical purposes. In filling a cavity upon the approximal surface of a bicuspid tooth, where the decay extended high up and under the gum, he introduced, after first carefully preparing the upper border of the cavity with well defined and square shoulders, a block of a size as large as the space would admit of, pressing it firmly in place. This afforded a basis for his filling, which he finished with adhesive foil, as before described.

Dr. SMITH spoke of the importance of adopting some one method of filling. It was in this way only that we could ever excel in this operation. Good plugs, it was true, could be made in the various methods in use. But he had observed that those who make uniformly good operations were those persons who had adopted a single method, and by long prac-

tice in it had become expert. He remembered having heard an operator of considerable reputation say that his success was due almost entirely to the fact of his having adopted the block method of filling, and that by long practice, he could now do what others fail in, who began the use of them at the same time, but abandoned them for other ways of filling.

Dr. TAFT described the method of securing a plug, if it moved slightly in the cavity before the gold is all introduced; it was by taking a fine wedge-shaped instrument, and passing several times around the edges of the filling, with considerable pressure. In this way it can be securely fixed in place. It was well, he remarked, after the cavity is full, to pass around the edges of the filling in the same manner, as it would produce a nice adaptation to the borders of the cavity, not attained in the ordinary way.

He concurred in what Dr. S. had said in relation to adopting a specific method of filling. For five years he used blocks in filling exclusively, and was confident it was not so good a method as the one he practiced now. He then mentioned some of the objections to block fillings. After abandoning blocks, he used crystal gold for three years, and since that time has used adhesive foil altogether. He was satisfied it was the best of all the methods he had tried.

Upon inquiry if any present were using os-artificial in fillings, Dr. TAFT mentioned that near six months ago he filled four molar teeth, which were much decayed, and portions of the walls broken away, so that the material was built up without much protection. He had seen these teeth within a few days past, and they seemed as perfect as at first. The plugs were exposed upon the masticating surfaces, and the teeth used freely.

Dr. SMITH had used it in a number of cases where the nerve was exposed a little, and in several instances where the tooth was aching slightly, with apparently good success. The feeling upon its first introduction, as described by patients, he thought similar to the action of chloride of zinc. He had

made no examination to ascertain if the vitality of the teeth was destroyed.

Dr. DAVENPORT filled a tooth in his own mouth with this material some months ago. Occasionally there is a recurrence of the acrid taste experienced when the filling was first introduced. The surface at times he observes becomes roughened, owing perhaps, he said, to the peculiar condition of the secretions of the mouth.

Reports of cases being next in order. Dr. TAFT mentioned that he had recently filled two bicuspid teeth for a lady, and in excavating one of them there was one point in the cavity which was somewhat sensitive. The pulp was not exposed, and supposed it only sensitive dentine, it was not more sensitive than many that are successfully filled. Within a week after it was filled neuralgia set in upon that side of the face, the tooth seemed to be the starting point of the difficulty, though there was no soreness of the teeth. After a few days of ineffectual treatment removed the filling, and cut into the pulp and found it living, and very irritable; destroyed it and made a few applications of creosote into the fang, and after a few days filled. The patient has had no pain nor unpleasant symptoms since the tooth was filled.

Cases of the kind prompt us to more thorough examination before filling.

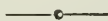
Dr. RICHARDSON reported a case where he had filled a tooth three years ago, and since then the patient had occasionally complained of pain in the tooth; but he did not think it sufficient to remove the plug, until recently when there was an increase of discomfort. When upon removing the plug and cutting into the pulp cavity, he found an entire absence of the remains of the pulp. How was the pulp removed and what was the cause of the pain.

The discussions being closed, Drs. H. R. SMITH and CAMERON were appointed essayists for the next meeting.

Filling teeth was continued as the subject for discussion at the next meeting.

The following persons was appointed delegates to the National Society to meet at Washington on Tuesday July 31, viz: Drs. H. R. SMITH, J. TAFT and H. A. SMITH.

The Society adjourned to meet at the office of Drs. WARDLE and DOUGHTY, on the second Tuesday, of July, at 8 o'clock P. M. H. A. SMITH, *Sec'y*.



APPOINTMENT OF DELEGATES BY THE MISSISSIPPI VALLEY DENTAL ASSOCIATION.

CINCINNATI, June 12, 1860.

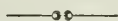
At a special meeting of the "Mississippi Valley Association of Dental Surgeons," held at the office of Dr. Richardson on the evening of June 12, 1860, Dr. Sam'l Wardle was called to the Chair, and Dr. T. F. Davenport elected Secretary *pro tem*.

On motion of Dr. Richardson, the Association proceeded to the special business before it, viz: the election of delegates to the "National Association" at Washington. The following gentlemen were unanimously elected:

Dr. W. H. Atkinson, Cleveland, O.; Dr. E. Collins, Connersville, Ia.; Dr. J. P. Ulrey, Rising Sun, Ia.; C. N. Woodward, Ripley, O.; J. B. Lindsay, Maysville, Ky.; H. McCullum, Augusta, Ky.

On motion, the Association adjourned.

T. F. DAVENPORT, *Sec'y pro tem*.



DENTAL COLLEGE ASSOCIATION.

At a called meeting of the Ohio Dental College Association, held June 12th, 1860, Dr. RICHARDSON was elected chairman, and Dr. H. A. SMITH, Secretary, the object being to elect delegates to the National Society to meet at Washington in July. The following persons were unanimously elected, viz: Dr. G. W. KEELY, of Oxford, O.; Dr. GEC. WATT, of Xenia, O.; Dr. M. DECAMP, of Mansfield, O., Drs. JOS. RICHARDSON and J. T. TOLAND, of Cincinnati, O. After which the Association adjourned. H. A. SMITH, *Sec'y*.

Editorial.

THE DENTAL MEETINGS.

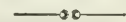
As the time for these meetings draws near, the interest of the profession in regard to them increases. There seems to be a very general desire to be present at them. This is gratifying. Those who know most about the advantages to be gained by associated effort appreciate these meetings most highly, and make the greatest sacrifice to avail themselves of the opportunities thus presented.

There is an occasional exception, as in the case of those who go upon the *rule* or *ruin* principle ; but fortunately the number of these is so small, that they can not change the course of things very materially. It is important that the profession generally attend these meetings.

There is a general impression that the meeting at Washington will be exclusive in its character, admitting none but delegates from properly constituted Societies. The draft of a constitution, which has been prepared, and will be presented for amendment and adoption, provides for three classes of members, viz : delegates, members by invitation, and permanent members. Judging from this, it is probable that members will be made in more ways than one ; and in any event, all who go will be admitted to the meetings, and possibly to participate in the discussions.

We hope and anticipate that this Society will be established upon a permanent basis, one that shall grow stronger and stronger as it grows older.

T.

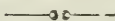


GOLD FOIL.

WE have been using for a short time "Excelsior" Gold Foil, non-adhesive, manufactured by J. T. Toland, of this city. The sample we have used we have never seen excelled for soft foil. It seems to be perfectly pure, is soft and tenacious. With the perfection to which the various preparations of gold are brought, there

is hardly any excuse for poor fillings. Yet we find much cheap foil in market, and many buy it because it is cheap, at the store, but forget that it is very dear at the office. Try T.'s "Excelsior."

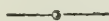
T.



THE MEETING AT WASHINGTON.

WE have just seen a letter from Dr. McFarlan, of Washington City, to Prof. J. Taylor, of this city, in which it is stated that a very fine Hall in the Smithsonian Institute has been tendered to the Society for its meetings, and the committee has accepted the kind and generous offer. The meetings will, therefore, be held in the Smithsonian Institute, on Tuesday, the 31st of July, at 12 M.

T.



BIBLIOGRAPHICAL.

"DENTAL ANOMALIES, and their influence upon the production of Diseases of the Maxillary Bones. By A. H. Forget, M. D., C. L. D., etc."

This is a neat little work, issued by Jones & White, published within the last year in the Cosmos, but now in book form, which is by far the most convenient. It consists of two chapters. The first treats of "Anomalies of nutrition and development." Cases are given, the first of which is very minute in all its parts; the *history of the disease*, the *condition of the patient*, the *diagnosis of the disease*, the *operation*, the *method of its performance*, with *remarks on the same*, the *consequences of the operation*, the *final results of the operation*, with *reflections*.

Other cases are also given, which, taken together and closely examined, afford a large amount of information.

Chapter second treats of Anomalies of position of the teeth, their pathological consequences. This part is also illustrated with cases of much interest, which it is necessary for the reader to examine in connection with the plates in the work, in order to fully comprehend them. The plates are very fine, and illustrate the subjects very perfectly. This addition to dental literature should have a place in every dentist's library. It is for sale at the dental depots.

Bound in paper at 50 cts., and in cloth, at 75 cts.

T.

“A TREATISE ON MEDICAL ELECTRICITY, Theoretical and Practical.
By J. Althaus, M. D.

This is a work just published by Lindsay & Blakiston. From the cursory examination which we have been able to give it, we hesitate not to pronounce it one of great value. It goes very thoroughly over the ground of medical electricity, treating fully of its application to and influence upon the numerous conditions for the treatment of which it has been employed.

The manner of using it in its various forms is very fully described, and the results of its application in various affections.

The work, of course, is not wholly original, and it would be less valuable if it was. Hitherto the mass of information upon this subject lay scattered all over the field of medical literature, and it was a very important work to gather it up, arrange and systematize in such a manner as shall make it most available in practice.

This is a subject of much importance to the dentist. It is but a little while since electricity was called to the aid of the dentist in the extraction of teeth; and though its use for this purpose has been in a great measure abandoned, yet we think the difficulty rested in the ignorance, awkwardness or impatience of those attempting to use it, rather than from a want of efficiency, when properly applied, of electricity itself. But leaving this altogether out of view, we have the fullest evidence of its value and efficiency, in many affections, especially those of a nervous character, with which the dentist comes in very close and frequent contact.

The work demonstrates that electricity is valuable in diagnosis, as well as treatment. Every dentist should study this subject thoroughly, and to no better source for aid can we direct him than to this work.

T.

ANATOMY OF THE FIFTH PAIR OF NERVES.

JONES & WHITE have just issued a very beautiful and perfect plate, exhibiting the anatomy of the fifth pair of nerves. The plate is about 18 by 24 inches, and is a very fine thing. With it is a concise description of the plate in pamphlet form. These will enable any one to study the fifth pair of nerves with great facility. The author is Henry A. Daniels, M. D., and we can not do less

than congratulate him for the very perfect manner in which his work is accomplished. It is for sale at the Dental Depots. Price \$2.50. When in a neat frame, it is quite ornamental. It should be in the office of every dentist. T.

THE SOUTHERN DENTAL EXAMINER.

THIS is a new monthly dental journal, published at Atlanta, Ga., edited by J. P. H. Brown ; with Geo. S. Fouke, of Md., corresponding editor. It is published at \$1 per annum. We hail the advent of the Examiner as an omen of good to the profession, and especially to the profession of the South. The men who have it in charge are able to make it an interesting and valuable acquisition to dental literature. The first and second No's are before us, and give evidence of the ability of the editors.

TEETH.

WE have recently been using teeth from the manufactory of Dr. Porter, of Bridgeport, Ct. The Doctor has deservedly a high reputation in the manufacture of teeth, but not more than he merits.

These teeth are very firm, they are good in every point, particularly in shade and form, they are excellent. We have used them only for rubber work, but we doubt not that they would be just as good for any other kind of work. We should be glad to see more of them in market. We are confident they would become general favorites. T,

A TRIP TO BALTIMORE AND WASHINGTON.

A short time ago, we had occasion to pass over the Baltimore and Ohio Railroad to Washington City and Baltimore. We had passed over the road several times before, not within the last two years, however. But never till now did we have any proper conception of the road or the country through which it passes.

The road is one of the best in the United States, notwithstand-

ing the natural difficulties that were in the way of its construction. These to an ordinary mind would originally have seemed insurmountable, but they have all been overcome.

It is a smooth, solid road, over which the cars glide so smoothly that one scarcely knows he moves. The structure of the road seems to be perfect in all its parts, notwithstanding the ruggedness of the country through which it passes; mountains are bored through, and the dashing train drives on through its rock-bound course with perfect security. Next comes the almost bottomless chasm, over which the train leaps, on the light and airy structure prepared for its way, with the same assurance of safety as though its track was upon a broad bed of granite.

We never traveled over a road on which we felt a greater security, and this seemed to be the feeling of all the passengers. There was an entire absence of that care and anxiety that is so frequently observed in travelers passing over roads that have not a good reputation for security.

The very perfect condition of this road is due to its superior management. The government of the road is evidently in good hands; all its running arrangements seem to be as perfect as it is possible to make them; the utmost care is exercised in regard to accidents; the road is lined with watchmen, and anything out of the usual course, occurring upon the road, is always communicated to approaching trains in time to prevent accident.

The scenery along this route is worth a journey across the continent to see. The magnificent views that roll in rapid succession before the eyes of the astonished beholder, are indescribable—no tongue can tell or pen describe their beauty and grandeur. The towering mountain, with its graceful sweeps and bold curves, stands with its foot in the deep chasm, the bottom of which can only here and there be seen.

The cars roll along the mountain side, far, far above the tops of the highest trees below, and mountain tops reaching far above. In order to attain any kind of an accurate idea of the country, it must be seen. Every one should visit this region; and we think seeing it once would increase the desire to see it again.

T.

THE DENTAL REGISTER OF THE WEST.

VOL. XIV.]

AUGUST, 1860.

[No. 2.]

Original Essays and Communications.



SELECTION AND ARRANGEMENT OF TEETH, IN CONSTRUCTING DENTAL SUBSTITUTES.

BY PROF. W. CALVERT, D. D. S.

It is a fact, doubtless self-evident to the mind of many in our profession, as well as out of it, that comparatively little regard is had by the mass of practicing dentists to the proper selection and arrangement of teeth.

Individual cases are not unfrequently met with where teeth are inserted, and it may be in point of construction, so far at least as relates to skill in mechanism, faultless, and yet in no particular can they be said to hold a proper analogy to the supplies of nature, or are in that wonted harmony existing in other parts which combine to give character and expression, ever truthful to nature.

In the present age of progress in the arts and sciences, such should not be the case. The professional man who, in the management or treatment of his patients, fails to regard the governing laws of the economy, in securing and preserving the anatomical and physiological relations, is not counted worthy the name to which his profession would entitle him, but is justly reputed as empirical. And can it be considered any the less culpable on the part of the dental practitioner if *he* should ignore, by practice, the first principles of restora-

tive science—a strict adherence to nature? As in the economy of nature, all her complex, systematic and composite arrangements of parts harmonize, so, when invaded by disease, or intercepted by accident, so that the requisition of science and art become necessary, perfect conformity to nature should, as far as practicable, be alone the idea of laudable ambition.

Four points are here severally deserving of special notice, and should claim the attention and consideration of every practitioner, especially those just entering the profession.

No positive indications can here be given by which one may be, unmistakably, guided in the matters under consideration. The naturalist, from his accumulated store of scientific knowledge, is enabled to solve the anatomical problem of the unknown species, having but a single or isolated bone; so the dentist, by careful study, close observation, and experience, should be able to adapt the color, size, and form of the teeth, by the relative analogy they hold to other parts, conformably with each particular age, temperament, etc.

The first thing, then, to be noticed, is the particular shade of teeth adapted to each case. This, doubtless, is by many considered of but minor importance, and is, therefore, often overlooked, or, at any rate, receives but little of the attention that it deserves or demands. That a distinguishable and even marked difference exists, not only in the color, but in the size and form of the natural teeth of persons of different ages and temperaments, no one will for a moment question; and it will be admitted, as well, that their color changes, from time to time, either from constitutional or other causes, or from advancing age. By the preponderating forces in the human organism, the various temperaments are indicated. To the skin, and to the hair, are imparted their peculiar color; and as by the mysterious processes of nature these are developed, so the teeth, in their normal or abnormal condition, receiving their supplies from the same nutrient source as other parts, under the same controlling influences, in like manner,

present common characteristics, and are susceptible of like organic changes, either in the formative processes, or subsequently, after mature development. If, then, we have presented this variety of aspects in color, etc., of the natural organs, we are thus irresistibly led to the urgent necessity of special attention, with regard to a strict conformity to nature, in the insertion of dental substitutes. The inference, then, must be obvious, that we should insist upon the closest possible approximation to nature, first, where we have some of the natural teeth remaining in the mouth with which to compare, and by which to be guided, and, secondly, in suitably appropriating where all of the teeth are wanting—nothing but the individual, age, temperament, etc., to direct.

The size of the teeth is next worthy of note. In this, as well as in other respects, we find the same class of teeth differing in different mouths. In many cases (partial ones) it is by no means difficult to determine upon the size of the teeth required, inasmuch as the position and space to be supplied will sufficiently indicate the same. But, in other cases, the difficulty is increased by the loss of most, if not all of the natural teeth. Here it is especially where proper knowledge and sound judgment combined, are the only safeguards to success.

The form or shape of the teeth also, and especially the front ones, has much to do in securing the most desirable results, as relates to the general and external appearance. Much of the character of a set of teeth depends, indeed, upon this particularly. It is certainly apparent to the mind of any one that no single form, size, or color of teeth is adapted to the general wants; and hence, the implied necessity for proper regard in this particular.

What has just been said, of course, has no reference to the internal, palatal or lingual shapes of the teeth, nor is it my intention to refer to this at present, further than to make this passing allusion.

More, perhaps, than any of the other points spoken of, self-

considered, has the *arrangement* of the teeth, in their relation to each other, to do with the life-like expression and natural appearance of the mouth. Throughout, in the fitting and arrangement of the teeth upon plates for the mouth, a regular, uniformly set, or symmetrical order should, in all possible cases, be avoided; and, more especially, where nature has not implanted symmetry and beauty in the countenance, features and expression of the individual. Instead of maintaining a perfect order in their arrangement, it will be found, upon trial, that the less the adherence to the ideal of perfection in this respect, (setting one tooth a little high, another low, one out, and another in—in a word, *irregular*), the more pleasing and natural will be the effect in the mouth.

It is almost a universal custom, in the fitting and arrangement of teeth upon plates, to give all of the front ones—both upper and under—an inclination toward the median line, or symphysis. While this is generally in correspondence with nature, as relates to the *upper* teeth, it is not so in regard to the *under* ones. In them (the under) there should be a slight divergence each way from the center,—at the same time setting them quite close together, rather than having the spaces usually separating the upper teeth.

From the variety of age presented, with the contrasted appearance existing in the natural teeth, from youth to middle age, or more advanced life, it becomes apparent that the same general character that is imparted to the denture in youth, is not at all adapted to or befitting the individual beyond the meridian of life. As life advances, instead of the teeth presenting the perfection and beauty of youth, we invariably find their cutting edges and cusps materially abraded, (some more and some less) from their constant attrition, in the fulfillment of their appropriate function.

Now, in the construction of cases, under circumstances so varied by age, there should ever be kept in view this important feature—adaptation to age. Should advanced life be the one involving claim, as the fitting of the teeth goes on,

the external cutting edges of the lower, and the internal of the upper ones should be ground off, at such an angle or inclination as will present the abraded edges, or mechanical abrasion, so characteristic of age.

It is true that the case, with teeth treated thus, so much at variance with common custom, or the usual practice, when examined out of the mouth, may meet the well trained and critical eye unfavorably; yet, when seen, or carefully observed in the mouth, the effect, so produced, will be of the most marked and pleasing kind, greatly contributing to their life-like character.

Much in the expression of the individual countenance depends, also, upon the fullness that is given. In temporary cases, generally, great care is necessary not to overstep the natural limit, and obtain undue fullness, tension of the muscles, and consequent protrusion of the lips. So, likewise, where absorption has taken place, and the deficiency is to be supplied, due regard must be had to the proper contour of the face, so as to attain to the greatest possible natural perfection.

All this, relating as it does to the external, or outward and general appearance, should most unquestionably claim and receive its just share of attention. Still, aside from this, there is another office the teeth have to perform—other than that of an essential, superadded exterior—*that of more appropriate function*. While I would regard, with that attention I esteem due, appearances, in the construction of dental substitutes, I would not be understood, in any way, to divest the subject of its *more* important aspect, in relation to specific function, in which the teeth themselves, the lips, cheeks, and tongue are most intimately concerned—in *prehension, mastication, enunciation, etc.*

“FANG FILLING.”

Read at a meeting of the Mad River Valley Society,

BY A. A. BLOUNT, M. D.

“FANG FILLING,” till quite recently, was considered an unsafe and hazardous operation. The principal objections that have been urged against the practice, are, that in proportion as you destroy the vitality of the nerve, you render the tooth more liable to violent attacks of inflammation, and, consequently, a constant source of irritation to the surrounding parts. It is maintained by many that, notwithstanding the tooth may not give rise to alveolar abscess, it is, nevertheless, a constant source of irritation to the contiguous living parts, and that its removal is the only remedy. The success of those who formerly attempted the experiment of retaining the teeth, after the destruction of the living membrane, fully justified the conclusion, and, in almost every instance, the operation was a total failure, unless some opening was left, in the filling or tooth, to admit of the escape of the secretions and gases.

This want of success was soon traced to the proper source; and a new field was opened to the enterprising Dentist. The fangs were then freed from the *dead membrane* and filled; and success was the result of almost every experiment.

It was argued that, should there be a secretion of matter at the root, the absorbents would carry it off as fast as it was formed, and that there would be sufficient vitality supplied to the tooth by the investing membrane.

By the repeated experiments of those who have been foremost in the ranks, such a degree of perfection has been attained that, although a tooth may have been suppurating for years, and alveolar abscess may have been of frequent occurrence, leaving fistulous openings in the gums, it can be restored to perfect health and usefulness.

The first step toward the treatment of an exposed nerve, is to consider the best means of accomplishing its destruction

and removal. There are several means, and much diversity of opinion as regards the most efficient, and the one least liable to produce disastrous consequences. The two which seem most in favor are "arsenic," and extirpation with an instrument. The nerves in the incisor teeth can be more readily extirpated with a small, untempered instrument, filed flat, and twisted in the shape of a screw, at the point. Pass this into the cavity, giving it a slight rotary motion, and the nerve becomes entangled with the instrument, and frequently may be brought away entire, with but a moment's pain.

In using arsenic, care should be taken not to apply too much; as there is no doubt that the frequent failures of many in the use of it, are attributable to that cause.

If we will take pains to freely expose the nerve, so that we can apply the arsenic in contact with it, we will more readily accomplish its destruction, and be less liable to disastrous results, from the absorption of the poison. The smallest quantity, therefore, say the fortieth or fiftieth part of a grain, will be sufficient. (I very frequently use no more than will adhere to the point of a small instrument, dipped into it, with which I touch the nerve.)

This should, in no instance, be left in the tooth longer than twenty-four hours,—in young persons, eight to ten hours is sufficient.

After removing the application, take a chisel or drill, and expose the entire pulp cavity, that you may more readily have access to the fang. We have now arrived at a point where the least neglect will cause a total failure. It is *absolutely necessary* that *every portion* of the nerve should be removed, and the cavity freed from any *foreign substance* whatever. This precaution is indispensable to a successful result.

There is much difficulty, in most cases, in extirpating the nerves in the buccal fangs of the upper molars,—they are generally very small, and will seldom admit the smallest

sized broach. To obviate this difficulty, take a very sharp, four-sided reamer, and ream them to the end of the fang. The cavity should be syringed with water; and after drying well, introduce a pledget of cotton, saturated with creosote, seal up, and let remain two or three days. After removing, take a small broach, flattened at the point, turned up at right angles, and made very sharp. With this, we can free the cavity from any foreign substance that may be left remaining in it. It is then, provided there is no inflammation or soreness, ready for the filling.

We have, so far, only spoken of cases of the most simple character, and now come to those more complicated—with alveolar abscess, and fistulous openings in the gums. These cases will require more care and attention to produce the desired results. And, in order to be successful in the treatment of them, we should have a sound constitution to aid us in our efforts, or we will be likely to fail.

The first step is to make an opening in the crown, sufficiently large to expose the fangs to view. This can be easily accomplished with chisel and drill. Cleanse them thoroughly with excavator and syringe, and apply either creosote, chloride of zinc, or nitrate of silver. Seal up, and let remain from one to three days. If there be much discharge of matter, the application should be frequent; and, as the discharge diminishes, lengthen the time between applications.

To be enabled more readily to reach the point of the fang, take a piece of floss silk, say an inch or two long, saturate with the remedy, and with a broach you can introduce it as far up as desired, taking care, however, to leave one end hanging out, to enable you to withdraw it easily, otherwise you may have some difficulty. Continue the treatment till the tooth exhibits no signs of inflammation, or soreness from pressure; and you can then fill it with perfect confidence as to the result.

Should there be a fistulous opening in the gum, make an incision with gum lancet across it; introduce floss silk, satu-

rated with tannin or tinct. of iodine, and keep it open till after the tooth is filled, and then allow it to heal.

Mr. B., of a robust and healthy constitution, called to have the right superior molar extracted, which had been ulcerating for *four years*, and discharging through a fistula in the palatal arch. The tooth being too valuable to think of extracting, I commenced the treatment by cutting away all the decayed and soft parts, exposing the cavities in the fangs to view, cleansed them thoroughly with the syringe, freed them of the dead and ulcerating pulp, and, with reamer and drills, enlarged the cavities as much as was practicable, to enable me more readily to reach the points of the fangs; with a broach, I introduced into each floss silk, saturated with creosote. This was renewed every third or fourth day, till there was no discharge perceptible.

With a gum lancet I made an incision across the fistula, reaching to the alveolus at the point of the fang, which I found somewhat diseased. With a strong excavator I broke away the diseased bone, and introduced a pledget of cotton, saturated with tinct. of iodine. The fistula was kept open till after the tooth was filled, and then allowed to heal, which it did in a few days, leaving no trace of its former location.

It sometimes happens, after the destruction of the lining membrane, the tooth becomes several shades darker. It is desirable, before filling, to restore the natural color, especially if it be an incisor,—otherwise it would present an unsightly appearance.

To effect this desirable object, I have been in the habit of using a solution of "Chloride of Soda and Lime." Introduce cotton, saturated with the mixture, seal up, and let remain twenty-four hours. One application will generally be sufficient.

In filling the fangs, I use soft and adhesive foil, which I prepare by cutting the sheet into strips from a half inch, to an inch in width, rolling it, and cutting into various sized pellets or blocks. Take one of the smallest sized pellets on

the point of a plugger, dip it into creosote, introduce it into the cavity carefully, and slowly press it up, that the air may escape. Then dry the cavity well, and finish filling.

After filling the fangs, let the tooth remain a day or two, and fill the crown.

If we are permitted to judge from the agitation of the subject in the various Dental periodicals of the day, there seems to be quite a controversy between the advocates of the two methods of filling teeth of this character. One party maintaining that it is indispensable to the preservation of the tooth to fill the fangs, while, on the other hand, it is claimed to be unnecessary, and that filling the crown only is equally as successful.

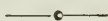
I am not prepared to speak, from any great amount of experience, of the latter method, having filled but very few teeth without filling the fangs.

But I trust I will not trespass on your time and patience, by giving you my views of the method adopted by our eminent brother and worthy President, Dr. Watt, who was, I believe, the first to make public this method of filling teeth. In preparing the fangs, (we all know in order to be successful,) the nerve *must* be removed to the end of the cavity, or just where it passes through the periosteum that covers the fang, where it will either heal by first intention, or by supuration and granulation. Beyond that point, we can not remove the nerve, without wounding the soft parts in such a manner that violent inflammation supervenes, producing supuration, and in all probability, the death of the periosteum. And, should we fail to remove the nerve to that point, we are also aware that the operation would be a failure. Now, if we are successful in removing it, and it heals and closes up the end of the fang, what is the use of filling it? There is no chance of any secretions entering the cavity; and the tooth is just as safe as though it were filled with gold.

If we will adopt the precaution never to fill a tooth till we are assured that the nerve has healed, we will never experi-

ence the mortification of a failure, and I am of the opinion whether we fill the fangs or not, the operation will be equally successful.

SPRINGFIELD, July 2d, 1860.



FILLING TEETH.

Read before the Cincinnati Dental Association,

BY DR. H. A. SMITH.

THERE is no operation so frequently performed upon man as that of filling the teeth—none attended with more success in the attainment of the object designed, when properly done, than this; and there is no other operation in the range of our profession which requires the same degree of judgment and skill for the thorough execution.

The object of this operation is to arrest that disease to which the teeth are most subject. This is accomplished by the removal of the carious portion of the tooth, and the subsequent restoration of the part with some indestructible material, which will afford a protection from the deleterious agents in the mouth to that portion of the tooth from which the material covering the dentine is removed.

We have referred to the large share of success attending the practice of filling teeth. But before mentioning some of the requisites for this success, we will present some of the causes of failure in many cases to accomplish the object designed by this operation. The most frequent cause of failure to render any prominent good to the teeth operated on, is owing, doubtless, to a lack of skill, or as is often the case with those who are competent, an inexcusable carelessness on the part of the operator. And it is this carelessness with those who are capable, which does so much to bring this mode of treating caries into disrepute, with many persons of considerable intelligence. Numerous are the instances in every den-

tist's experience, where they are told by persons that it is of no use to fill their teeth ; that they have been filled by one who was reputed to be skillful in his profession, and they are now in a worse condition than they were before he saw them. It is difficult to convince such a person that the want of success in their case was owing entirely to the careless manner in which the operation was performed, and not to the mode of practice itself. Such persons reluctantly submit to have the operation repeated, and if they do, it is with a feeling, possibly, that we are all a set of impostors, and are endeavoring to get their money without rendering an equivalent. These things are unpleasant, and every dentist owes it to his profession to do at least as well as he can.

Another practice, which we can not but deprecate, is that of raising too great expectations on the part of the patient, as to the permanency of the operation—warranting the plugs for all time to come against any possible contingency of failure. Such persons usually claim infallibility, and competent operators frequently have injustice done them by this class of dentists ; for when they discover a filling that is in an imperfect condition—no matter from what cause—they at once attempt to impress the patient with the idea that he has been victimized—that the filling never was of any value—and forthwith proceed to plug the tooth in the manner it should have been done, putting upon it with the last stroke of the plugger, their warranty and seal of perfection. What honorable man in the profession has not a supreme contempt for such as these ?

Other causes of failure may exist, which are entirely beyond the control of the dentist or the patient. Frequently, when the teeth are filled in a skillful manner, and have been preserved for a great length of time, a condition of the system will be suddenly induced, causing a vitiated condition of the fluids of the mouth, resulting in a rapid destruction of the teeth, and the same plugs which only a short time previous were perfect, have now ceased to be of any value. It may

be the same state of the system which induced the first appearance of caries. The teeth possessing the same defective organization they then did, the same causes must inevitably produce like effects.

Again, neglect to properly cleanse the teeth is a frequent cause of the failure of good fillings to preserve the teeth for any considerable length of time. The retention of foreign substances in contact with the teeth is a fruitful cause of caries, and when a tooth is filled, the same cause will operate more readily upon it than at first. It is impossible to produce that nice adaptation of the filling to the edges of the cavity, so as to form the perfect continuity of the enamel in its unbroken state. And a retention of these deleterious agents in contact with the plug, will most certainly produce a carious condition of the borders of the cavity.

Frequently it is quite impossible for the operator to do himself or patient justice, owing to the many disadvantages under which he labors. The patient may be timid and sensitive to pain to a degree that the dentist is prevented from proceeding with the operation in his usual thorough manner. It is a rule that each successive step in the operation should be thorough and complete before proceeding to the next, and yet I think with all of us cases occasionally present themselves, where a departure from this practice is unavoidable, if we operate at all. The only question is whether an imperfect operation is better than none. We do not propose to discuss this, however. Other causes might be enumerated why fillings fail to be of any permanent advantage. But to you who have had any considerable experience in filling teeth, they will be readily suggested.

In order to insure any good results from filling teeth, the various steps in the operation must be as well and thoroughly performed as the circumstances of the case will admit. The pathology of the mouth, before proceeding with the operation, should receive due attention; and if the gums or other tissues of the mouth are diseased, or the salivary or mucous secretions

have not their usual characteristic properties, the proper course of treatment must be resorted to, to restore the former to a state of health and the latter to their normal condition.

A careful examination of the teeth should then be made, for frequently a correct diagnosis of caries depends entirely upon physical signs. There is an entire absence of pain, and it is only by observing a discoloration or disintegration of the enamel, that we discover the existence of dental caries. In connection with the physical signs, we may have, at an early stage of the decay, vital symptoms, and in many cases the patient can very certainly point out the teeth affected, by a feeling of discomfort produced by the action of the disease upon the tooth substance. On the other hand, patients who do not suffer any from pain in a carious tooth, can locate the disease as certainly as in the first instance. This is due to a habit of observing their teeth frequently and with care. The cultivation of this habit should be encouraged in our patients, for frequently the symptom of pain is present only in the earlier stages of disease, and ceases entirely when the caries has advanced beyond the enamel, and if it is not arrested before this feeling of discomfort has passed away, the attention of the patient may not be directed to it again, unless he is in the habit of thus observing his teeth, until the near approach to the pulp warns him that he has a carious tooth.

As a rule, if the decay can not be removed with a cutting instrument or file, the tooth should be filled. It frequently requires more skill to fill a cavity thus early than when the decay is deeper seated, and sometimes we are tempted to send our patients away with the remark that the tooth has not decayed sufficiently to fill. Delay in such cases is dangerous. The patient may be prevented, unadvisedly perhaps, returning until the decay has progressed so far as to endanger the vitality of the tooth, and then there is more uncertainty as to the ultimate success of the operation.

If, then, we have decided to fill the teeth, and the decay is

upon the approximate surface, the teeth should be separated if practicable, or cut away sufficiently to insure an easy approach to the cavity, and in such a manner that when the teeth approximate each other again, they can readily be cleansed upon their cut surfaces.

Care should then be exercised to remove every portion of decayed dentine, unless by doing so, we would expose the pulp. If this is liable to occur, sufficient of the softened bone can ordinarily be left as a protection to the parts beneath. The borders of the cavity, if the decay is deep-seated, and has rendered them thin and friable, should be cut down until they are strong, if possible, and smooth. Great care is required in the preparation of the cavity. It must not only be of a form to retain the filling, but should be shaped so that every portion of the material introduced for the plug may be thoroughly consolidated. Considerable care is required in shaping the cavity, lest too much be cut away from portions of the cavity already weak from the extent of the decay, rendering them more liable to break under the pressure necessary to consolidate the plug.

It is requisite that the cavity should be kept perfectly dry while the filling is being introduced, the material for which should be the best of its kind, and carefully prepared. Lastly, the finishing of the plug must receive due attention, for the ultimate success of the operation depends greatly upon the amount of care bestowed upon this part of the operation. The plug may be perfect up to this point, but unless the overlapping portions of the filling are removed, and the surface properly finished, we have no assurance that the filling will accomplish, in every respect, what we intended it should.

We have thus briefly referred to several of the successive steps necessary to insure a successful result in filling teeth, without attempting to describe the various methods by which they are performed. These will receive due attention, I presume, in the course of remarks by the members on the subject.

TREATMENT OF A DISEASED TOOTH.

BY J. T.

Mr. G. D. P., aged 28 years, of nervous sanguine temperament, and in good health; had the second right inferior bicuspid filled in its anterior approximal surface with "os artificial," about two weeks previous to this examination.

For a few days after it was filled, there was no pain except upon taking co'd water into the mouth; but within a week the tooth has become quite sore from inflammation of the periostium, and ached almost constantly.

The filling was a very poor one and badly put in, a portion of it being already displaced, and the remainder quite soft, upon removing it, the pulp was found to be exposed, and partially paralyzed. Enlarging the orifice of exposure, the pulp was easily removed from the whole length of the fang. Cleaned out the fang, applied creosote, and let it remain six hours, at which time the soreness of the tooth was entirely gone. Indeed, it was almost entirely gone immediately after the removal of the pulp. This, I suppose, was brought about by the hemorrhage consequent upon the removal of the pulp. Then filled the fang and decayed cavity with gold. The operation caused no pain, nor was there any soreness of the tooth after it was filled, and all is well to the present time, which is about one month.

Before filling, placed a small pledget of cotton moistened with creosote, in the canal near the apex of the fang, and filled down upon it firmly.

Applied tincture of iodine to the gums immediately after removing the pulp, and at the close of the operation.

This case illustrates the fact that oftentimes success is better attained by prompt, energetic treatment than by delaying for more mild treatment. The difficulty in the periostium was removed by the hemorrhage, after the removal of the pulp, whereas, had arsenic been employed, far greater difficulty would have been experienced with the periostial irritation. Cases of an acute character will often result best with prompt, thorough treatment at once.

FANG-FILLING, AND TREATMENT OF THE ALVEOLAR ABSCESS.

BY DR. B. A. ROSE.

Read at a meeting of the Mad River Dental Society.

FANG-FILLING is one among the most important points in operative Dentistry. No half way treatment will answer in such cases. The following method I have found most successful.

When, on examination, we find the pulp exposed, and have no hopes of restoring it and the tooth to a healthy condition, by proper treatment and filling, we make an application of arsenic, morphine and creosote to destroy it. We let this application remain from six to twelve hours, and then remove it and wash out the cavity. Then, with excavators, we enlarge the opening to the pulp cavity, and take a broach dipped in creosote and, with a quick motion, insert it as far as possible into the nerve canal, giving it a rotary motion as it is withdrawn, by which means the greater part of the nerve will be brought with it. This produces a sharp, stinging pain, but is so quickly done that the patient seldom complains of it. The rest of the nerve is to be removed with still smaller sized broaches, dipped in creosote. Then, after washing out the cavity with a syringe and tepid water, take spool thread, about No. 40, saturated with creosote, and fill the nerve cavity, and fill the crown cavity over it with gutta percha. Let the tooth remain thus from five to ten days, when, if no trouble presents itself, remove the temporary fillings, and fill with gold.

For filling fangs, I roll my gold very hard and fine, to correspond with the size of the broach used in cleaning out the canal, and saturate the first pieces with creosote, before introducing them.

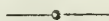
Now, as gold is a good conductor of heat, we do not fill the nerve cavity quite full of gold, but soften a small piece of

gutta percha and introduce it so as to cut off the connection between the nerve and the crown cavities.

Now, to be successful in fang-filling, there must be space sufficient to enable the operator to have a fair view of the pulp cavity.

TREATMENT OF ABSCESS.—We first ascertain if there is an opening from the crown to the pulp cavity; and if there is not, we make one, and remove all dead and offensive matter from the nerve cavity, and syringe it with tepid water.

Now, if there is a discharge through the alveolar process, enlarge the opening with a lancet, which should penetrate to the apex of the root. We then put an instrument into the nerve cavity, and fill around it with gutta percha. When the instrument is removed, an opening is left for the insertion of the point of the syringe. The canal is now to be injected with creosote, which, if the abscess be of long standing, will pass through the process, along the opening made by the lancet. The gutta percha should then be removed, and the cavity filled with thread, saturated with creosote and chloroform. A piece of lint, moistened with creosote, should be inserted into the incision made with the lancet. This should be continued, and repeated, till there is no more discharge, when the incision in the gum should be allowed to heal. The thread should be removed from the nerve cavity, (as the chloroform and creosote evaporate,) and replaced about once a week, till there is no soreness in the tooth or gums, when it may be filled as safely as in ordinary cases of fang-filling.



COMPATIBILITY.

BY J. T.

THAT there are constitutions and temperaments possessing an attraction for each other, and others neutral, and still others between whom there is a repelling power, is a fact that no one having an acquaintance with human nature will for one moment deny.

The conditions are usually recognized at first contact, especially when they are definitely marked. These peculiarities modify all our course of life: by this principle things and persons agreeable are drawn to us, and those disagreeable repelled.

It is true that many persons can so hide or cover up their real character, that in smooth sailing it will not fully appear, and on this account there often seems to be a compatibility, when in reality there is not; in such cases when any thing occurs to develop the true character of each, then the incompatibility appears, and probably with accumulated strength.

If these conditions influence the affairs of every day life, they will certainly operate upon the dentist and his patient. The circumstances are such as to bring out the true character of each, and that oftentimes in a marked degree.

The attractive principle influences the operations of the dentist far more than most persons are aware.

We are familiar with the fact that when we operate for a person for whom we have an aversion, it is in the nature of things impossible to exercise that degree of patience and skill, that can be brought to bear under more favorable circumstances.

If the patient augments the difficulty by fretfulness and irritability, it is impossible for an operator to perform his operations as well as he otherwise could.

The dentist sometimes finds a patient for whom it is a pleasure to work; in such instances he is disposed to prolong the operation sufficiently to accomplish every step perfectly, and do all that is necessary to be done. A feeling pervades the operator under such circumstances that he must perform his work well.

When the dentist knows that his patient will appreciate his operations, and feel grateful to him for his effort and submit kindly to his judgment, and in future will take care of his teeth, and endeavor to obtain the most value from the operations, then it is that the dentist labors under favorable

circumstances, and then if ever will he try to make good operations.

But the case is very different if he has a patient for whom he has an aversion, and it may be cross, irritable, ill-natured, suspicious, faithless in regard to the efficiency of the work, and will take no care of the teeth in future.

Cross and irritable? Yes, every moment asking if you are not done; accusing you of doing more than is really necessary, just to give them pain; remarking occasionally that they "think dental operations do more harm than good," "and that you are filling a great many more cavities than there are in the teeth;" and that "Dr. B. is a splendid dentist, for he filled my teeth and did not hurt me a particle," when at the same time a plugger will go through Dr. B's. plugs about as readily as through a firmly rolled ball of cotton.

Now, surrounded with such circumstances, there is not an operator living, who can make good operations.

We probably never find a patient in whom is concentrated all the objectionable qualities here enumerated; but occasionally they are found with a considerable number of them, and some repulsive things are sometimes found that are not here enumerated.

For such patients we usually do nothing more than they point out and require, and point out to them just as little as is at all consistent with duty: and that which we do attempt, we endeavor, though through tribulation, to perform as well as possible. It would in some respects be better never to attempt to operate under such circumstances.

Proceedings of Societies.

CINCINNATI DENTAL ASSOCIATION.

A stated meeting of the Society was held at the office of Drs. Wardle & Doughty on Tuesday evening, July 10, 1869.

Members present—Drs. Taft, Wardle, Davenport, H. A. Smith, Cameron, H. R. Smith, and Foote.

Minutes of previous meeting read and approved.

Dr. MERIT WELLS was unanimously elected a member of the Society.

No essay was read.

The subject for discussion, viz: Filling Teeth, was then taken up.

Dr. TAFT remarked that a writer in an Eastern Journal had recently, in an article on the subject of filling teeth over a slight exposure of nerve, or where there is a thin covering of bone to protect the pulp, condemned the practice, and he wished to ascertain the practice of the members present in such cases. Do you not frequently fill teeth in this condition with success? Dr. T. said he had for the past twelve years practiced filling over slightly exposed nerves, and had not, he thought, lost more than five per cent. of such cases. He did not fill over a nerve, where there was evidence of inflammation, without first treating the pulp, and in many cases, where he could control the patient, first fill the cavity temporarily. He expressed himself decidedly of the opinion that in a majority of cases the pulp would elaborate a bony material, and protect itself, if properly shielded from irritating agents. He occasionally failed to preserve teeth in a living condition by this method of practice, but did not think this a sufficient reason why he should abandon the practice. It was an injury to the profession and ourselves to do so. Physicians do not cease to give the same remedies in like cases, because a patient occasionally has died under the treatment.

Dr. H. R. SMITH's practice is, if the pulp was slightly exposed, to make an application of creosote and chloride of zinc. He merely wished to cauterize the surface of the pulp, and remarked that he succeeded much better by letting this remain but a short time than when the application was allowed to remain for several hours. Where the pulp was protected by a thin layer of bone, he invariably filled with gold. In consolidating the plug, he avoided any direct pressure over the pulp cavity. Any considerable pressure on the nerve would produce inflammation, and the loss of the vitality of the tooth would result.

Dr. WARDLE said he did not usually succeed so well in cases in which he treated the pulp previous to filling, and referred to several instances in his practice where he had failed, attributing it entirely to the previous application of creosote, tannin and chloride of zinc. He had recently used nitric acid, and though with better results than in the former plan of treatment.

Dr. H. A. SMITH remarked that he had practiced filling with gold where there was but a thin lamina of bone covering the pulp; but of late, when he did it, did not feel so confident of success as formerly. He had observed numbers of teeth which he filled in this condition had lost their vitality, and were a source of much annoyance to the patient. This did not occur in some instances until a considerable length of time had elapsed, after filling. With some individuals there was not the slightest danger of irritation from the near proximity of a metal to the pulp. Persons of good health, with an absence of the inflammatory diathesis, were of this class. We did not, he thought, observe the temperament and idiosyncrasies of our patients carefully enough, and was confident, if more regard was given to this particular, the particular mode of practice now being considered would occur much less frequently.

If the nerve was actually exposed, he was not in the habit of filling immediately with a metal. If no inflammatory

symptoms were present, would introduce a soft non-metallic filling. This he let remain until the nerve had protected itself. The length of time required for this was very variable, and indeed might never take place. It had been remarked by one that he only introduced soft fillings in cases where he could control the individual; but he (Dr. S.) preferred doing it, although he never expected to see the patient again. He had no faith in arching fillings over an exposed pulp, described by members present. The arch was an imaginary one in some cases, he thought. In a certain class of cavities, it would not be difficult to arch in a pulp, but that particular kind of cavities rarely presented themselves. No one admitted they left a vacuum between the bottom of the cavity and the filling, and he could not quite understand how an operator ascertained the amount of pressure actually applied over that part. A covering of some non-conductor over the part he preferred to the uncertainty of an arched filling.

Dr. FOOTE stated that he filled teeth with exposed nerves, and seldom lost one. He usually first introduced a soft filling, letting it remain for two or three months. This would afford a protection to the part until ossification had begun. It was a provision of nature that the little tubuli became ossified in advance of caries. It will be perceived, if an examination is made with a microscope of a carious tooth, that ossification of the tubuli is taking place in advance of the decay.

If this be true, the propriety of introducing a soft filling over the thin covering of dentine until ossification ensues, would be apparent. If the pulp was wounded, it would heal up in twenty-four hours with the right treatment, excluding the air. It was not different, and was subject to the same laws as an incised wound in any other soft tissue. If the patient was not under control, he would arch up his filling. This could be readily done with crystal gold, by introducing the first portions in the angles and sides of the cavity, bringing it together on the center. Would prefer crystal gold next the walls of the cavity, as the crystals more

readily adapted themselves to the irregularities of the sides than foil.

Dr. CAMERON was not in great favor with the practice of filling over exposed nerves, or even where a thin partition of bone only remained. He mentioned a case in his practice where the nerves were not exposed, and after being filled for three months, alveolar abscess resulted. A slight cold he thought the predisposing cause in these cases. Destroying the nerve and filling the fangs he thought the better practice in cases referred to. The application of nitric acid to exposed nerves he had discontinued.

Dr. DAVENPORT said it was his practice to fill where there was a thin lamina of bone over the pulp. He had never filled over an exposed nerve, but should do so when cases offered themselves.

Inquiry was made how members were succeeding with the use of the mallet.

Dr. WARDLE remarked that he liked it better than his patients; that they in many cases objected to it most decidedly.

Dr. TAFT said the majority of his patients with whom he had tried it, preferred the mallet to the hand pressure. He did not think the patient was much inconvenienced by it; he had one the other day with whom he used the mallet for an hour and a half, and the man slept one hour of the time. The mallet, skillfully used, gave a sense of security, inasmuch as the filling was firm and certain. Now when the instrument once slips in the hand of an operator, and pierces or wounds the gums of the patient, that patient is ever after nervous, and feels insecure during an operation; whereas with the mallet, no such accident can occur, and if the instrument is not properly applied, it slips but an eighth of an inch at the most, and no harm can come to the patient. The blows of the assistant could soon be regulated by the motions of the operator's head, with great certainty and precision.

Dr. TAFT reported a case of sensitive dentine which he had treated recently by burnishing the dentine within the cavity.

The tooth had been filled, and the variations of temperature conveyed by the plug caused so great pain that it was found necessary to remove it. At first, so great was the sensitiveness, that simple contact of the instrument gave intense pain; but by continuing the pressure for a little time, the sensibility was allayed. The cavity was then refilled, and the tooth had given the patient no further trouble. He mentioned another case where a tooth had been filled for three months, at the expiration of which a slight periosteal inflammation was set up. The plug was removed, and the pulp immediately extirpated, and in fifteen minutes the soreness was entirely gone. Thought if arsenious acid had been used to destroy the pulp, a permanent periosteal difficulty would have been the result.

Society adjourned to meet at the office of Drs. Bonsall & Smith, the second Tuesday in September.

MAD RIVER VALLEY DENTAL SOCIETY.

THIS society met, according to adjournment, in the office of Dr. Pease, of Dayton, July 3d, 1860.

Members present:—Drs. Pease, Bradley and Jones, of Dayton; Watt and Paine, of Xenia; Blount and Ramsay, of Springfield; Rose, Lee and Palmer, of Urbana; and Clippinger, of Bellefontaine. The minutes of the previous meeting were read and approved. The Constitution was altered so as to provide for the election of a Treasurer and an Examining Committee. Dr. Ramsay was elected Treasurer, and the Examining Committee was filled by the election of Drs. Pease, Blount and Clippinger. Drs. G. F. Foote and J. T. Toland were invited to sit as Corresponding Members.

Dr. Blount, according to previous appointment, read an essay on "Fang-filling," which was ordered to be placed on file for publication. Dr. Rose, also by previous appointment, read an essay on "Fang-filling and the Treatment of Alveolar Abscess," which was disposed of in the same way.

Dr. Pease exhibited specimens of Chinese Bamboo, and described his method of using it in the treatment of nerve canals. This substance is highly elastic, not easily broken, and is capable of very minute division, while the smallest perceptible splinter seems to have strength sufficient to penetrate the canal. After some general exchange of ideas, the meeting adjourned till 8 P. M.

EVENING SESSION.—Met at 8 P. M., and proceeded to the regular discussions.

“Suction plates” being first in order, there was a general and free interchange of sentiments, in brief, pertinent, and practical remarks. Difficult cases, and *failures* were reported without reserve, and all seemed more willing to receive than to give advice.

The next subject, “Fang-filling,” was discussed at considerable length, giving evidence that the members were more interested in the preservation of the natural teeth than in the insertion of artificial ones.

The order of business was then suspended, and the Examining Committee recommended Dr. J. E. Jones, of Dayton, as a candidate for membership, who was unanimously elected.

Then, on invitation of the Dayton brethren, the society repaired to the dining room of the Franklin House, and partook of a most bounteous repast, hospitably furnished by them; and after this *special* matter, the miscellaneous business was transacted.

On motion of Dr. Rose, it was resolved to meet in Bellefontaine, on the first Thursday of October, 1860, at 2 o'clock, P. M., in the office of Dr. Clippinger. Drs. Palmer, Bradley and Watt, are the essayists for the next meeting. “Investing and soldering gold work,”—and “Sensitive Dentine,” are the next subjects for discussion.

PROCEEDINGS OF THE WESTERN DENTAL ASSOCIATION.

THIS Association held its fifth annual meeting in the city of Springfield, Ills., on the 5th of July. Its sessions were held in the Senate Chamber, and although not largely attended, the meetings were very harmonious and interesting.

The meeting was called to order at 11 o'clock, A. M., by the President, C. W. Spalding, of St. Louis; and in the absence of the regular Secretary, Dr. Bogin, of Chicago, Dr. A. W. French was appointed Secretary *pro tem*.

The Minutes of the preceding annual meeting were read and approved.

After some desultory discussion, the Association passed a resolution of invitation to the dentists of the city and vicinity to participate in the meeting, after which adjourned to meet at 2½ o'clock, P. M.

2½ o'clock, P. M.—The Association met according to adjournment.

The reports of committees were presented and disposed of, after which, proceeded to the election of officers, which resulted as follows:

President—Henry Barron.

Vice Presidents—A. Blake and A. W. French.

Recording Secretary—C. W. Spalding.

Corresponding Secretary—S. Dunham.

Treasurer—H. E. Peebles.

Executive Committee—I. Forbes, W. W. Alport, G. Perkins, H. E. Peebles, and A. W. French.

JULY 6TH, 9 o'clock, A. M.—The Society met pursuant to adjournment, in the Senate Chamber.

The installation of the officers being the first business of the morning, Dr. Spalding, the retiring President, proceeded to deliver an eloquent address upon the topics of Dental Associations and the benefits to be derived from them by their mem-

bers. He said that it is one of the glories of the dental profession to throw aside old forms and usages, and to strike out in new channels. There is a degree of independent thought and action in the dental profession which does not arise in others, to try new things, throwing aside whatever is not good and adopting with zeal whatever is useful.

Dr. Spaulding's address was received with applause, and upon its conclusion he retired from the chair, when his successor, Dr. Barron, was conducted to the chair by Drs. Forbes and French, and delivered a beautiful and chaste address, in which he alluded to the organization of the W. D. Society, and urged the necessity of dental associations, colleges and periodicals; exhorting his professional brethren to avail themselves of the advantages of the best means of instruction in the country—hinting that one poor operator will do more harm, than several good operators can do good or would be able to remedy. The happy manner in which Dr. B. alluded to the laborious and toilsome road to scientific preferment and eminence, was only excelled by his beautiful allusion to the facility and harmony with which the preceding officer retired and gave place to his successor, hoping that the same good feeling and good fellowship might prevail in our civil government.

Matters of a business character occupied the attention of the Association during the remainder of the morning session.

Adjourned till 2 o'clock, P. M.

2 o'clock, P. M.—Association met pursuant to adjournment. The afternoon session was occupied in the discussion of the following propositions:

The treatment of the roots of teeth in which the nerves have been destroyed and removed.

The effect of diseased shedding teeth upon the adjoining permanent teeth.

The causes and treatment of caries of the teeth.

Which was participated in by the members generally, with interest, and evinced much scientific research.

SATURDAY, JULY 7TH, 8 o'CLOCK, A. M.—The Society met pursuant to adjournment, President in the chair.

An appropriation of two hundred dollars was made, to be given to any Chemist who would discover or make a plastic compound that can be substituted for gold in filling teeth.

It was stated that there now is the amount of two million dollars of gold per year used for dental purposes.

The Society proceeded to discuss the sixth proposition, viz : the relative value of Gold, Platina, Hard Rubber, Silver, etc., as a base for artificial teeth. Gold and vulcanite were preferred. The advertising, cheap dentist, it was said, might invariably be set down as one unworthy of public confidence, as each practitioner might be supposed the best judge of his own services.

The subject of Professional Courtesy was introduced and discussed, embracing the following points, viz : Fraternal intercourse (beginning with who is my brother); treatment of neighboring practitioners; decorum to patrons; courtesy to physicians; courtesy to clergymen, etc.

The remarks on this subject were truly pleasant and edifying. Drs. Forbes, Spalding, Barron, Blake, Peebles and French gave their views upon the subject.

The remarks of Dr. Forbes on this subject were highly interesting, and expressed so fully the sentiments of the Association, that he was requested to prepare them for publication. Drs. Barron and Spalding were also requested to furnish their remarks for publication.

At 12 M., the Society adjourned to meet in St. Louis, in July, 1861.

On Friday evening the dentists of the city invited the members of the Faculty and a few citizens of other avocations, to an entertainment at the St. Nicholas Hotel. On entering the dining room, their eyes were greeted by one of the most magnificently spread tables that has ever been set forth in this city. The bill of fare, which, though quite enough to satisfy the most dainty palate, gives but a faint

idea of the burden the tables bore, in the elegant taste displayed in the arrangement. There was a moistening and exhilarating fluid in tin topped bottles, passed freely around, and wit, sentiment and oratory entertained the company till a late hour. A decided healthy feeling prevailed before the ceremonies were ended, and each one felt that it was good to be there.

The proprietors of the St. Nicholas did themselves great credit on this occasion, and their house will long be remembered by their guests. Dr. Freeman's viands are decidedly better "to taste" than his medicines.

Correspondence.

MESSRS. EDITORS:—It is asserted by good authority, that by the mouth of two or three witnesses every word shall be established. Now I do not expect to add one ray of light or information, after such as have spoken on the subject of which I am about to say a few words, by way of adding my testimony. In February, 1860, at the meeting of the Mississippi Valley Association, I heard Dr. W. H. Atkinson, of Cleveland, Ohio, on the use of the mallet for filling teeth, and I endeavored to listen with that consideration due to a man of his experience, ability and standing. But I must here frankly acknowledge that I looked on the subject with a great degree of distrust; and although I frequently ruminated the subject in my mind, I had not the courage to adopt it for fear of periostitis—horror to the patient of being struck in the mouth with a formidable hammer, sledge, or mallet.

I concluded to wait for the facts, or at least until I could have ocular demonstration at the hand of some experienced and expert operator. Fortune favored me, for being in Cin-

cinnati in the month of May following, I called on Prof. Taft, in whom I have implicit confidence as an operator. The subject of the mallet was broached by him, and I took the liberty to make some inquiry, which by the way, I always feel at liberty to do when in the company of one so well qualified to instruct, and so urbane a gentleman. And to have the subject matter demonstrated, I had Prof. Taft remove a filling of large capacity from an inferior molar, that was placed there by Dr. C. C. Allen, of New York, some twenty-five years ago; and at that time, under the then existing administration, was considered a first class filling. It certainly has done good service, but the tooth had commenced to decay at or near the filling, and the dentine was quite sensitive to the touch of the excavator. The Prof. removed the filling, and excavated in his thorough manner; all being ready, then came the mallet, wielded not by the heavy hand of a blacksmith, but by the silken hand of a fair lady. And the said tender tooth was filled solid, perfect and complete, with the greatest facility, and to my astonishment, with great ease to myself, without any real pain; nor has there been ever since any soreness or inconvenience from the tooth or surrounding parts.

I then and there in my own mind resolved on the use of the mallet, and have used it in all practicable cases since (and nearly all cases with suitable instruments can be filled with the mallet) to my entire satisfaction, and I believe to the satisfaction of my patients, without a single exception or bad result, so far as I know; with greater facility and ease to myself and to my patients. As I have already spun my yarn too long, and it not being necessary for me to enter into a description of the *modus operandi*, it having been so well and fully explained by one better qualified for the task, I will close by saying to all who wish to excel, try it.

Respectfully,

C. N. WOODWARD.

P. S. I use the Crystal Gold Foil in almost every case.

INDIANAPOLIS, June 4th, 1860.

MESSRS. EDITORS :—I have just been informed by Dr. T. Morris, of the death from pulmonary consumption of Dr. John Hood, of Greensburg, Ind. Dr. Hood was among the first members of the Indiana State Dental Association, and from the beginning cheerfully gave it his countenance and support. Indeed, he seemed especially attached to it and his profession, being always present at its meetings, even when apparently too feeble to admit of it. Many of the members will recollect how ill he looked when at our last meeting in January; indeed, it was plain to the most casual observer, that the hand of death was upon him, and that he was rapidly leading him away. The 20th of March arrived and John Hood was gone. Dr. Hood had been practicing in Greensburg about nine years, and had accumulated, as I am informed, by a straight forward honorable practice of his profession, a sufficiency to leave his family, consisting of a wife and child, in comparatively easy circumstances. It has been my pleasure at various times, both before and after the death of Dr. H., to meet many of his neighbors, acquaintances, and patients, and I feel that I may safely say that no man in his neighborhood stood higher in point of morality, integrity, or any of the attributes that make the true man, than did he. None can be found who would or could truthfully speak ill of him. As a dentist he was universally regarded by all who knew him, both professional and non-professional, as strictly honest, conscientious, and capable. Always ready to impart information to others, and anxious to acquire more for himself, quite as much for his patients as for his own benefit.

— JOHNSTON.

We knew Dr. Hood, and can fully subscribe to all that is said in the above of him. As a man and a gentleman, we esteemed him highly, as did all who knew him.—ED.

Selections.

REFORMS IN MEDICAL EDUCATION.

THE following remarks upon medical education, are so directly to the point, and occupy the ground so well, that we can not refrain from transferring them to our pages. Every position, and argument here employed, applies as well to the dentist, the student of a specialty, as to the student of general medicine.

Two or three points are worthy of particular consideration, as for instance, shall there be any limit or restriction upon any who seek to enter the profession, especially through the Colleges; this we consider a question of great importance; and one to which, all will admit, sufficient attention has not been given.

Again, occupying the time and attention with that which is more utilitarian in its character, than a long, tedious training in the classics. We have no doubt that many fine minds have been ruined by the system of classic stuffing, which has been so very general. A man who could conjugate a Greek verb, is esteemed a very learned man, though he believed all things to consist of four elements—air, earth, fire and water.

Again, we are pleased to see the attention turned to the investigation of the natural fitness of the aspirant, aside from his literary attainments. We hope all will weigh well the positions taken in the following remarks.—ED.

In discussing this subject we can very naturally divide it into three parts. First—regarding the student who is to be educated; secondly—the science in which he is to be educated; and thirdly—the teacher who is to educate him. In each of these points, our present system of medical education presents deficiencies, demands reforms, and to each apply the resolutions presented and adopted at the late session of the American Medical Association.

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Regarding the first point—and to this our remarks to-day will be limited—fundamental questions are involved, and any reform to be brought about, must, from the very nature of the case, be radical. We know this word “radical” is disliked in many quarters, yet we can no better designate the changes which are to be brought about, and which have received the sanction of the American Medical Association, than by this term. They are radical! Why then not say so? They will, if carried out, lead ultimately to a complete and perfect change of the present system; we are performing not more than our duty, when we call this thing by its right name. Besides, in medicine, the term “radical” need not be looked upon as so very offensive. The history of medicine is but the history of the most radical changes; of all sciences, it is the least conservative, and the most progressive. Is it reasonable to expect medical education to become fossilized in old forms, when every day witnesses the evolution of a thousand new facts from their crasis into independent life? Is it reasonable to expect coming generations to tread the same old beaten track, when the only progress that has ever been made, has been by striking new paths?

But to the point. Shall the admission of young men into the ranks of students of medicine be restricted? This is the practical question. We care not what may be said to the contrary, wise men may show us the printed charters of medical colleges to convict us of an error. We affirm boldly that there is no young man, who has got into his head that he is destined to become a physician, however deficient his elementary knowledge, not to speak of general scientific and classic attainments, but will find some preceptor in good standing to take him into his office, and some college, called regular, in which he can matriculate and from which he can obtain a diploma. If it were necessary at all to argue this point, case upon case might be brought forward in substantiation. We know very well that the great mass of medical students at the present day are possessed of an excellent preparatory education; and we are not at all disposed to join the cry of many who wail and lament, refusing to be comforted, over the scientific status of the rising generation. On the other hand, in reference to the subject of a *classic* education, let it be remembered that in the last fifty years we have actually become five hundred or a thousand years farther removed from the silver age, when we consider the moral

effect of what has passed within that time. A man to-day lives *more* in one year than formerly in five. There is no room for much classics in these days. The iron horse has taken the lustre off the famous wooden horse of Troy, and the telegraph wires speak with voice as loud and eloquent as once Cicero or Demosthenes, of the progress of mankind. The indifference towards classic studies, so obvious in our time, has its natural causes. The human mind is limited. To a certain extent the law in physics, that two things can not occupy the same place at the same time, applies to it. Natural sciences have grown up and taken the lead. Something must make room for them. As the individual who devotes all his time and his energy to the study of chemistry, for instance, can not be expected to become a critical classical scholar, or if he has been will soon lose much of his former knowledge; so with the mind of mankind. We might as well lament over the disappearance of the good old traveling coach, as over the gradual downfall and decay of classic studies.

With these remarks, on the one hand knowing that the great mass of the medical students of this day have enjoyed and profited by the opportunities of a good preliminary education, and on the other hand considering the downfall of the old fashioned classic education as natural, and as an evident sign of progress in other directions, we can not be accused of laying too severe a critical measure upon the present system of medical education. Yet we are neither writing a panegyric on the former nor the epitaph of the latter, but a review of facts; and the lamentable truth can not be denied, that the present system of medical education has caused, or, if the term is preferred, has allowed, the admission into our profession of men whose ignorance has cast a dark shadow upon themselves and their brethren, and who, lacking every higher and nobler ambition, have degraded the most liberal of the liberal professions down to a mercenary trade.

The radical change to which we have alluded is, that the indiscriminate admission of young men into the ranks of the profession as students be restricted. Sooner or later, this reform must be carried out. There is, we believe, not *one* literary college in the land, which does not require a preliminary examination. Yet any one who can write his name and the name of his preceptor, though ignorant to the last degree, may enter the temple of our most noble science. It is time that guards should be placed at its very threshold.

But a few words need we say about the manner of restriction. The discriminating power should be vested in the State and District Societies. No student should be allowed to matriculate who can not present certificates of recommendation from the Board of Censors of the District in which he lives. Where such societies do not exist, special censors appointed by the State Society of the respective States in which colleges are located, should be ready at given times to examine candidates for admission. The requirements necessary for admission should be decided by the American Medical Association, and the Boards of Examiners be guided thereby. A distinction between graduates of literary institutions and others should not be made in these examinations for admission. The diploma from a literary college is frequently no more a sign that its holder really possesses literary or classic attainments, than a medical diploma shows that its holder really deserved it. Let there be strict equality—every one on his own merits. Again, without saying any thing against a so-called *classic* education, we would urge the study of *living* languages as important in the preparatory curriculum. If it is a profitable pleasure to crack a joke with Horace, to listen to the powerful invective of Cicero, or to be moved by the sweet pathos of Homeric songs, the study of German and French is not the less profitable and pleasurable to the medical student and the physician. It is a fine thing to read Hippocrates and Celsus in the original, yet it is as pleasing, perhaps more so, to do the same with Virchow and Bernard.

Lastly. A proper restriction, an examination to determine the intellectual and moral capacity of the candidate, how much expectation disappointed and hope blasted would it not present! Alas, how many young men have thoughtlessly entered the open portals of our profession, when but too late they found that they were never made to be physicians! Their money spent, their friends disappointed, their self-reliance gone and hopes blown to the winds, they had the alternative of dragging on a weary, weary existence, practicing mechanically an art which they had not mastered and did not like, cursing it and their fate, or to leave it, regretting the time they had lost in it. Their name is legion. Would they not have blessed their fate in days long after, had some guardsmen stood at those portals and forbidden their entrance!—*Medical and Surgical Reporter.*

TREATMENT OF NEURALGIA BY SUBCUTANEOUS INJECTION.

BY A. RUPPNER, M. D., BOSTON.

CASE III.—*Neuralgia of the Superior and Inferior Maxillary Nerves, or the second and third divisions of the Trifacial. Injection at different points; relief.*

MRS. —, of Boston, aged 59 years, married, mother of seven children, of nervous temperament; has suffered from neuralgia for about eight years. The pain is confined to the right side of the head and face, principally to the upper and lower jaw.

What degree of excitability the nerves of sensation of the face may reach, was here most fully illustrated. Would that I were able to describe in adequate terms the indescribable sufferings of my patient; not that I find delight in the recital of a seemingly, too highly-colored tale; no! but to do thereby inadequate justice and homage to the fortitude and resignation with which Mrs. — has so long borne her suffering. The least breath of air—loud conversation—a sudden noise—the riding in an omnibus over the pavement—even the noise of a passing carriage or other vehicle, over the street—the act of laughing and talking—the taking of fluids, warm or cold, into the mouth—the touching of the gums with the tip of the tongue, would induce a sudden paroxysm of pain, and cause the patient to give vent to her distress in loud screams. At such times the muscles of the upper lip and cheek of the right side are convulsed; and by placing the hand upon the affected part, which is exceedingly painful to the touch, a regular throbbing sensation is distinctly felt, going tick—tick—tick, with perfect regularity, and reminding one very forcibly of the appropriateness of the French name of this malady, "*Tic douloureux.*" The course the pain takes, as it shoots along, is generally regular. Starting from the central and lateral incisor tooth, it shoots upwards to the ala of the nose, thence obliquely upwards and outwards to the infra-orbital foramen, thence to the temple, and finally upwards either to the vertex and again along the suture down to the neck, or from the temple down to the pes anserinus and into the lower jaw.

Is it surprising that the patient's health broke down gradually under so much suffering? For the paroxysms would

come on often several times during the day and night—often daily for a week or more, and after a short interval of rest, return to assail her anew. Every thing was tried to give relief, from the medicaments ordered by the most able physicians—which gave temporary relief at least—to the most extolled nostrums of the day.

Sept. 14th.—Examined the patient for the first time, with reference to trying subcutaneous injection. From the direction the shooting pain generally takes, and from the fact of its starting always from the two incisor teeth of the right side, I suspected that much of the trouble was owing to the disordered state of the teeth and gums. Such, upon close examination, did not prove to be the fact exclusively. The gums, however, were in an unhealthy state, and the superior and inferior maxillary bones are, I fear, not in the most healthy condition. Much of the mischief in neuralgia is, no doubt, often owing to decayed teeth; but much harm is also done in indiscriminately extracting teeth, believing them to be the cause of the neuralgia; whilst by removing the tooth, *the nerve, the true seat of the pain*, is by no means reached. Many cases are on record, where no benefit at all was derived from such a procedure; and the present furnishes another illustration of the uselessness of extracting one or more teeth, and the benefit derived from the opposite course when warranted by a correct diagnosis. Several years ago, the subject of the present case had one or more teeth extracted, hoping thereby to get cured of her neuralgia, but in vain. And I believe she was advised by her physician, and her dentist too, not to have them removed. She has still a strong hope, that if her teeth were extracted, there would be an end to her neuralgia. The successful removal of the right molar tooth, of late, seems to have strengthened her in this belief. But the reasons for extracting that tooth, done by my advice, after consultation with Dr. Keep, senior, of this city, and for not extracting the others, will be apparent very soon.

I decided first to try the effect of the valerianate of ammonia on this patient—a preparation, of which I have already spoken. I prescribed, as follows:—R. Solutionis ammoniæ valerianatis, ℥ii.; syrupi simplicis, ʒ ii. M. Cochlear. parv. *pro re natâ*. Also generous diet and pure grape wine. Patient was relieved for the time, but the pain soon returned. I concluded to resort to subcutaneous injection the first time it should return and be severe.

Sept. 15th.—Mrs. — sent for me, having a terrible access of pain. Pressure revealed the *infra-orbital point* to be the most sensitive; I injected ten drops of the solution at that point. Patient felt a sudden warmth pass over her whole body; (complains of having always cold feet and hands, but particularly of the right side;) five minutes after the operation, or thereabouts, she felt no pain at all, and became drowsy. Left her in that state, lying on the sofa. Œdema at the point of injection inconsiderable; very tender to pressure. Some hours later, she said to me: "What did you inject? That drowsy feeling was splendid; I saw such beautiful visions." Towards afternoon she was seized with nausea, which was shortly followed by vomiting. This continued at intervals until evening, when I prescribed: *℞. Bismuthi subnitrat. ʒi.; infus. gentianæ comp. ʒ iss.; aquæ menth. pip., ʒ ss. M.* One teaspoonful every hour till relieved. Vomiting ceased after taking the first dose. Slept well all night, and was free from pain.

16th.—Still free from pain, except directly over the first molar tooth, at the root of which the pain seems to be situated. Patient is very nervous and weak. Prescribed the following: *℞. Infus. gentianæ comp., ʒ iij; extract. valerian., fl ʒ i. M.* Two teaspoonfuls three times per day.

17th.—Patient had, last evening, a severe paroxysm of pain in the upper maxillary bone, caused by sudden excitement and much conversation. It subsided after about an hour, under the use of the valerianate of ammonia.

20th.—Was sent for. Patient was very comfortable yesterday, but to-day suffers much from pain in the superior maxillary bone, just at the root of the first molar tooth. Has also pain in the infra-maxillary bone. Injected five drops at the *mental point*, being the most painful point, and about five drops more, close by the right ala of the nose, in a line with the margin of the same. Pain subsided in about ten minutes, and patient felt quite comfortable, with the exception that there was some burning sensation from the puncture made with the instrument. In about ten minutes more a general, comfortable warmth was diffused over the body, and she again passed into a half drowsy state.

21st.—Reports no pain. Comfortable all the rest of yesterday, during the night, and this morning at the hour of my visit. Feels very much debilitated.

26th.—Was requested to see my patient. She reports

herself as having been mostly free from pain and more comfortable than ever before, although the weather was very stormy, which had usually affected her very unfavorably. Complains of some pain in the lower jaw, not where I had previously injected, but at the *auriculo-temporal point*, and also at the root of the first molar, as usual. Injected five drops at the *auriculo-temporal point*, and five more near the *ala of the nose*. Patient was at once relieved from pain, and felt easier. I must not omit to state that the patient had mental trouble last week, which may be regarded as the exciting cause of these last paroxysms.

Oct. 1st.—Quite free from pain, with the exception of some slight twinges over the first molar tooth. All the suffering seems to be confined to that place. Patient still takes infusion of gentian and valerian. Tried iron and quinine, but neither agrees with her. Appetite excellent. Pulse 82.

2d.—Complains still of pain over the same tooth as yesterday. Very nervous and excitable about the least thing that is said. Injected again four drops near the *ala of the nose*. Patient was relieved of pain, but felt very sleepy.

3d.—Reports no pain, but feels much prostrated.

4th and 5th.—Patient exercised both days quite violently. Was exposed to sharp winds. Had, each evening, a paroxysm of most excruciating pain, all starting from the molar tooth. Pain lasts about two hours—from 7 to 9 P. M. Was sent for; when I arrived, somewhat late, pain had subsided. All the pain, which is of a pulling, tearing character, is confined to the tooth. Complains of no pain anywhere else.

6th, 9½ A. M.—Was sent for. Patient had another attack in the same region as on the two previous evenings. Feels very feeble; pulse 72. Injected, directly, five drops over the molar, followed soon by relief. Is sensibly affected by the injection; compares it to a crawling sensation all over the body. Begins to sleep.

7th.—Free from pain. Slept well. Feels weak and prostrated, but not so much as yesterday. Continues her tonic and wine.

16th.—Was called to the patient, who has repeated paroxysms, situated, as before, over the molar. The least touch or motion of the lip produces a paroxysm, which lasts about a minute. Pain does not spread. Injected again with good results.

18th.—Is free from pain, but very nervous. Pulse 104.

19th.—Had several severe, though short, paroxysms this morning. Is entirely prostrated by pain, and extremely nervous. Any and every thing brings on pain. Suffered so severely in my presence, that I injected eight drops of the solution near the *infra-orbital point*, with immediate good result. Patient insists on having the first molar tooth removed, it being the source of all her trouble. Pulse 98.

1 o'clock, P. M.—Consulted with Dr. Keep, sen., as to the removal of the tooth in question, at the patient's request. Dr. Keep had extracted several teeth, within the last few years, for the patient, with no good effect as far as the neuralgia is concerned. The pain always shifted afterwards. Patient is still free from pain, and under the influence of the injection of this forenoon. The lip can be raised without trouble. Is very nervous; pulse 120, with violent palpitation of the heart. For these reasons the operation on the tooth is postponed till next day, in the hope of getting the patient more calm, and pulse reduced.

20th, 9 A. M.—Met with Dr. Keep at patient's house. Has passed the previous afternoon and night free from pain. Went down stairs to breakfast, and had a paroxysm. Pulse 88. Lip comparatively free from pain. Dr. K. extracted the tooth without trouble. The appearance of the tooth presents nothing abnormal, except that its fang is very rough, almost serrated on one side, and more transparent than usual. Says she feels better. At the evening visit the lady is found to be comfortable, free from pain, but still very nervous.

22d.—No pain. Very weak and nervous. Has little appetite. Pulse 92.

24th.—No pain. Feels stronger. Thinks the vegetable bitters and the wine agree with her.

28th.—Patient is still free from pain. Continues to gain strength.

Nov. 3d.—No pain, and much improved. Can eat without difficulty; sleeps well; has been out in the fresh air almost daily; can ride, &c., without suffering from pain.

11th.—Gives a favorable account to-day since I saw her last. Looks better; has a good appetite, and is in good spirits.

From this date my visits ceased; and patient has continued, as I hear, doing well.

I have reported this case in full, in order to present the effects of often-repeated subcutaneous injection; and to show

its power of stopping the pain, at least for a considerable period of time, when a possibility of cure is almost, if not entirely out of the question, thus giving, at least, relief from time to time. Here the *tic douloureux* was so well marked as to leave no doubt in my mind about the nature of the case; the pain was evidently seated principally in the terminal branches of the superior maxillary nerve, in the *mandibulolabralis* and some muscular twigs of the inferior maxillary, and to a slighter extent also in the *pes anserinus* of the *portio-dura*. Another fact must also not be overlooked in this case. Patient had always a good appetite, although she was unable to eat on account of the pain caused by the motion of the jaws. Having become much debilitated, a tonic treatment was indicated and vegetable bitters produced the desired effect; whilst iron and quinine could not be borne at all. Much benefit, no doubt, was also derived from the constant use of pure Rhine wine.

CASE IV.—*Neuralgia seated in the right temple; Injection at the Temporo-malar point; Use of the Valerianate of Ammonia; relief.*

Mr. —, residing in Boston, aged 20, book-keeper by occupation, was attacked, some two weeks ago, with violent pain in the right temple, during the night. Is of the sanguineous temperament, and has always enjoyed good health. Is, however, not robust, but rather delicate. Can assign no cause for the pain. Consulted his physician, who prescribed palliative remedies, in the form of ointment, to be applied externally. Did not derive any benefit therefrom.

Sept. 21st.—Consulted me at my office. Pain has been more or less constant; rather dull and heavy instead of lancinating. His teeth are sound. Upon pressure, I discovered the *temporo-malar point* to be the most painful spot of the affected surface. I advised injection, but he rather objected to it, and expressed his preference for internal remedies. Prescribed the valerianate of ammonia in the usual form, and told him to call on me if he did not get relief till morning.

22d.—Reports having obtained no relief from the use of the medicine. Persuaded him to consent to injection. I injected ten drops of the strong solution at the *temporo-malar point*. About fifteen minutes after the insertion of the narcotic, he complained of giddiness, but declared himself free from pain, which was very violent when he entered my office.

Went to sleep for almost an hour. Had no pain when he left me, but the point of injection was very tender to the touch, and slightly œdematous. Patient took tonics for a considerable period afterwards. Pain has not returned, up to the present time.

CASE V.—*Severe pain in the teeth of the right side of the Upper Jaw, occurring during Pregnancy; Injection of Opiates into the gums; temporary and partial, but not permanent relief.*

The patient was a German woman, aged 34 years, of nervo-sanguineous temperament, mother of two children, and four months advanced in her third pregnancy. When I arrived, she complained of pain in all the teeth of the right side of the upper jaw. Suspecting them to be at fault, I examined them carefully, and found them perfectly sound; but on the left side there were two decayed ones. Here, however, she experienced no pain at all. I determined to try the effect of opiates by injection, as everything else had been tried. By means of a curved needle, I injected into the gum fifteen drops of solution No. 4. In about twenty minutes the patient declared her pain to be somewhat less. This being in the forenoon, I called again towards evening, in order to inject once more, so as to give the patient rest over night, if possible, as she had already lost two nights' sleep. Injected again twenty drops of the same solution. Pain was somewhat relieved after half an hour. Patient felt nausea, and soon began to vomit.

When I called next morning, patient informed me that for about two hours after the injection she felt but little pain, but shortly after that time it returned with more violence than ever, and kept her awake all night.

This case not being adapted to the treatment, and having injected for the sake of experiment rather than in the expectation of giving permanent relief, I desisted from any farther operation. The pain subsided, a few days after, spontaneously.

CASE VI.—*Case of Cervico-Brachial Neuralgia of many years' standing; failure of all other remedies; Injection at the Post-Clavicular Point; relief.*

Mr. —, German, 46 years of age, married, a carpenter by trade, has suffered for many years from severe lancinating

pain in his left arm, which he fractured, at the upper third of the humerus, when 12 years old. The pain is generally most severe after exposure to damp or cold weather, or after a hard day's work. Can generally predict, with considerable certainty, the advent of a paroxysm. Pain is sometimes sharp and lancinating, sometimes it partakes of a dull and heavy character. It shoots along the neck, from whence it starts, downwards, is felt all over the shoulder, and is often most severe at the external angle of the clavicle, at its articulation with the scapula. Pressure revealed that the most tender spot was the *post-clavicular point* of Valleix. I inserted my syringe within the angle formed by the clavicle and acromion process, and injected twenty drops of the solution I generally use. Not long after the instrument was withdrawn, the patient felt sleepy and drowsy. No nausea nor vomiting. He remained lying on my sofa for an hour, and when he awoke, declared himself free from pain.

Some weeks after, he called again, the pain having returned with increased violence. I injected, at the same point as before, fifteen drops of my strongest solution. The same phenomena were observed, and the same results followed. Having cautioned my patient in regard to his dress and over-exertion, and having prescribed some stimulating anodyne liniment, to be used in case pain should be only slight in future, I sent him home. This happened in March, 1859. From that time to the present he has had, in cold, wet and damp weather, occasional and very slight pains, which he says are not worth noticing when compared with his former suffering. Is now working at his trade, perhaps more assiduously than ever.—*Boston Med. & Surg. Jour.*

Paste of the Chloride of Zinc.—Dr. Spence recommends, in the London Lancet, the following formula for preparing the paste of chloride of zinc, so successfully employed in chancre affections: "Dissolve fifty grains of prepared chalk in two drachms (by measure) of commercial muriatic acid; dissolve a hundred and fifty grains of sulphate of zinc in ten fluid drachms of boiling water. When required for use, mix the two solutions, and the result will be a paste weighing nearly an ounce, and containing one-sixth of pure chloride of zinc."

On the Physiological Position of Fibrin. By LEVIN S. JOYNES, M. D., *Professor of Institutes of Medicine in the Medical College of Virginia.*

WE can hardly do justice to this very able article in the brief extracts our space permits us to make from it, and yet it contains too much of interest to allow us to pass it by unnoticed.

Prof. Joynes gives a very just statement of the theory held by some late physiologists, viz.: "That fibrin, so far from being a peculiarly organizable or plastic material, and the immediate pabulum of the most highly vitalized tissues, is, in reality, an excrementitious compound, not at all available for nutrition, and to be reckoned among those elements which have arisen in the blood from its own decay, or have reverted to it from the waste of the tissues, and are in process of elimination from the system."

Prof. Joynes adheres to the older theory, until recently held by all physiologists, which considers fibrin to be a most important element for the nutrition, formation and repair of the tissues; and sustains his opinion by the following arguments:

1st. "Fibrin is a constituent of the chyle. Evident indications of it are found in the fluid drawn from lacteals of an animal in full digestion, at their very issue from the intestine; but its quantity progressively increases by the transformation of albumen, as the chyle moves along the vessels towards the thoracic duct, and through it into the venous system; and a further increase takes place as the blood passes from the venous to the arterial side of the circulation. We may affirm, therefore, that the proportion of fibrin increases as the products of digestion approach the points where materials are needed for the nutrition of tissue; and we may ask if fibrin be an excrementitious product, why should it appear *in the chyle* directly after its absorption? We can not account for its presence here by the waste of tissue, nor can we reasonably suppose the occurrence of a "retrograde metamorphosis" a destructive change in the products of digestion as soon as they are absorbed.

2d. "Fibrin is nomally found only in the *nutritive fluids* of the economy—the blood, chyle and lymph. It is not a constituent of any *excretion*, as are all those constituents of the blood which are admitted to be excrementitious—such as carbonic acid, urea, uric acid, creatine, etc.

3d. "Fibrin is nature's agent for the *arrest of hemorrhage*. When vessels are divided, the coagulation of the blood is the means by which their occlusion is mainly effected, and the flow permanently arrested. If the blood contained no fibrin, and were therefore not coagulable, hemorrhage, even from the lightest wound, could never be arrested by the efforts of nature. But for the same protective property every separation of a gangrenous part would be attended with bleeding. Effusion of fibrin is also the means by which suppuration is circumscribed, and prevented from assuming that diffuse character which is sometimes so destructive. In these several particulars, fibrin performs offices which are singularly *conservative*. Can we say as much for any of these products of wear and tear which constitutes the true offal of the system? It has been aptly remarked, that the organism *bears an increase of fibrin better than a diminution*. Witness the comparative gravity of sthenic inflammation and the severer grades of typhoid fever. Not so with any organic compound of the excrementitious class. The accumulation of these in the blood is the signal of urgent peril.

4th. "Is it mere fancy that sees in the spontaneous coagulation of fibrin, and the definite position which its particles usually assume in solidifying, the indication of a special tendency to organization? And is it unwarrantable to argue therefrom the possession of a certain degree of *vitality*? All attempts to ascribe this coagulation to the operation of mere chemical or physical influences have failed. It is a change which fibrin always undergoes of its own accord, when not kept *moving in contact* with living parts, whatever be the external condition in other respects. Whenever, in the course of the circulation, the plasma of the blood is effused from the capillaries in the midst of the tissues for their nutrition, the fibrin being now *at rest*, is free to pass into the solid state, and enter into combination with the tissue or tissues of which it is the appropriate food. We have no just ground for affirming that fibrin is the only immediate tissue-forming ingredient of the blood; that albumen, for example, which abounds there, must pass through the form of fibrin before combining with any living structure. The probabilities are all against such an exclusive view. But that fibrin is a *specially and eminently organizable or histogenetic* material, this, I am convinced, is a truth which can not be successfully controverted."—*Va. Med. Jour.*—*Southern Med. Jour.*

Union of Leather and Metal.—The Southern Medical and Surgical Journal quotes from a foreign source the following very effectual method for fastening leather upon metal: “The metal is washed with a hot solution of gelatine, and the leather previously steeped in a hot infusion of gall-nuts, pressed upon the surface and allowed to cool. It then adheres so firmly that it can not be separated without tearing.”



SWALLOWING SEVERAL TEETH ATTACHED TO A PLATE, WITH SAFE PASSAGE THROUGH THE BOWELS.

(From the London Lancet.)

The necessity for attention to the teeth artificially attached to a gold plate, when they become out of order, is of so much importance that I beg to trespass upon your space to relate briefly the particulars of the following interesting case, which were communicated to me by Dr. Julius, of Richmond, Surrey:

Mrs. ——— swallowed a gold plate on which were three or four teeth, fixed with clasps at each end of the plate for attachment to the adjoining teeth. One of the clasps had become bent, and formed a sharp point. Some hours afterwards she complained of severe pain in the stomach, which seemed very much distended. Dr. Julius made her lie on her right side, and keep quiet. After the lapse of some hours, the pain suddenly left her, and her expression was, that “it went off with a jerk and a pop.” She felt nothing more until about twenty-four hours afterwards, when she suffered severe pain in the caput coli, which persisted for some hours, and then passed off in a similar manner. The next morning Dr. Julius was hurriedly sent for, and on arriving found her in great agony, with a constant desire to pass urine and relieve the bowels. Upon passing a catheter into the rectum, he distinctly felt a hard metallic substance firmly fixed across the bowel, about two inches above the sphincter. He now introduced a three-bladed speculum, and dilated the bowel as much as could be borne, and, with the aid of two pairs of forceps, he brought down the sharp end of the plate, and then extracted it, with very slight injury to the mucous membrane. In a few days she was quite well; and, as Dr. Julius observes,

after a good washing, used the same teeth again to assist in recruiting her strength after the painful ordeal she had passed through.

The teeth swallowed were two central and two lateral incisors, with the clasp extending to the first molar. One of them had become displaced, and she neglected to have it adjusted. The consequence was they became loose, and were suddenly swallowed, clasp and all.

My object in sending these particulars is to point out the necessity of persons immediately attending to any imperfection in artificial teeth worn in the mouth, however arranged, for the purpose of preventing such accidents as that just narrated, which might have proved more serious, but fortunately for Mrs. —, terminated without any serious inconvenience. There are many individuals who will not believe that such a piece of plate with teeth attached as that just described, will pass through the bowels at all.

I am, Sir, yours obediently, THOS. H. HARDING.
Park-square, Regent's-park, April, 1860.



ENLARGEMENT OF SUBMAXILLARY GLANDS AFTER REMOVAL OF CANCER OF THE LIP.—A middle-aged man, with an epithelioma of the lower lip, had it removed by a V-incision by Mr. Erichsen, at University College Hospital, in July, 1859. The wound united, and he left quite recovered from the effects of the operation. There was then no enlargement of the glands anywhere. In March he presented himself with swelling of the glands in the right submaxillary region, no doubt contaminated by the original cancerous disease, although the cicatrix in the lip was healthy. Mr. Erichsen observed to his pupils that as he had lately had experience of some of the evils consequent upon leaving glands in this condition, he determined to remove them in the present instance, more particularly as they did not appear to involve the sheath of the carotid artery, although they were probably close to it. Chloroform was therefore administered on the 7th March by Dr. Andrew, and an incision made parallel to the border of the lower jaw. After much patient dissection, two enlarged glands were removed, together with a small portion of the submaxillary gland itself, and in effecting this, it was necessary to divide the facial artery. This vessel with several

smaller ones were tied, and the hemorrhage ceased. Nitric acid was applied to a patch of suspicious tissue, which seemed to be the remains of the envelope of the affected glands. The wound was allowed to heal up by suppuration, and as Mr. Erichson believed the disease was entirely local, the man has thus been placed in as favorable a condition as possible for a complete recovery.—*London Lancet*.



PRACTICAL HINTS.

BY J. D. WHITE.

PLUGGING teeth over slightly exposed nerves, or where there is only a thin plate of dentine covering them, seems at present, from what we see in the journals and discussions before societies, to be quite a settled practice with many in the profession. For more than twenty years we have regarded the practice as unsound, and for as long a time have condemned it, and exerted all our care to avoid plugging over a slight exposure or where the plate of dentine was not thick enough to sustain the life of that portion of the pulp that it was destined to protect. The *liquor sanguinis* supports the vitality of dentine, and when the greater part of the dentine is supplied over any portion of the pulp by a foreign substance, such as a plug of any metal, a *stagnation* takes place between this plug and the pulp, and the thin portion of dentine becomes morbid from an undue amount of nutritive fluid poured into it, the circulation of which has been arrested by the plug, which may be less permeable than the dentine. If there be a considerable portion of dentine intervening, a pulp may *live* without any signs of trouble to the patient, and the slow and normal process of the receding of the pulp, as age advances, may take place by the filling up of the pulp cavity, and the case may be a success for the life of the patient. But if this plate be *too thin*, and by this too thin we mean that according to the capacity of the pulp and the constitution of the patient to successfully sustain morbid action, the case will fail. The stagnated fluids in this portion of dentine ends in decomposing it, leaving an opening between the plug and the pulp or causing a loss of its vitality; in either case inflamma-

tion of the pulp is the consequence, and the plug must be removed, and the case treated as if it had been exposed before plugging. We never get into any trouble from this near approach to a pulp, unless it be where we err in our judgment as to the capacity of the pulp to live with a small amount of its natural protection; but we do not destroy a pulp unless we can decide that there is an actual exposure, even though the success of the case may be doubtful; we prefer to give the patient the advantage of that doubt.

We frequently treat such cases with creosote or tannic acid and sulph. morphia, to reduce the action of the pulp for a time after the tooth is plugged, and to compensate for the irritating influences of the jarring the tooth undergoes by the operation; but we are not always successful under what we regard at the time as favorable circumstances. The function of the pulp is to supply nutrition to the crown of the tooth above the gum, as the anatomical arrangement of the tubuli indicate, and the constituents of the circulating fluids to the crown of a tooth is equal to the wants of that substance, as is true of any other tissue of the body; and how our modern physiologists provoke the pulp to produce more of one constituent than another, seems to us to be too absurd for serious consideration.

We have always been taught and believed that to increase the action of an organ or a tissue, that an excess of the fluids was the result of that increased action instead of the solids. How to approach a pulp of a tooth by *therapeut'c agents*, so as to procure a rapid deposit of dentine or bony matter, and reduce the vascular and nervous tissue of the pulp at the same time, is beyond our comprehension. If the earthy constituents are increased, the animal constituents and fluids are increased also, and, as far as we can judge in treating teeth, where the pulp is irritated or increased in its action, this is true. "*Ubi irritatio ibi fluxus*" is, we believe, sound doctrine. Upon removing a plug for pain in a tooth, when the pulp is living or a recent case of irritation, a small portion of serum will be found between the plug and the pulp, and if it be a case where intense pain has been experienced, it frequently happens that pus and blood will also be found, the accumulation of which will have compressed the pulp so that the orifice of exposure can be entered without touching the pulp, but in a few minutes after the discharge of the pus or serum, the pulp will regain its normal size and fill its cavity,

and the pain will cease, which had been caused by the pressure ; hence the relief that is obtained by giving "vent," as it is termed.—*Dental Cosmos*.

In the above practical hints we find a mode of practice that has obtained quite extensively in the dental profession, rather unceremoniously condemned. It is always well to give a caution when there is danger, especially to those of small experience.

It strikes us as rather a peculiar method of disposing of any point of practice, to say that "for twenty years we have condemned it, and considered it unsound," and of course have not practiced it, while the profession generally have considered it good, and have introduced it into practice, and with very generally good results.

We have practiced filling cavities in which there was a thin lamina of dentine covering the pulp, for fifteen years, and with a success that warranted a continuance of the practice. Occasionally a pulp will die, where the circumstances are unfavorable ; but if we should abandon everything that might have unpleasant occurrences connected with them, we would soon find ourselves standing still in the world.

We know that quite a large number in the profession have been indulging in this "condemned, unsound practice," without the least intimation that they were sinning against correct principles.

In regard to this matter we state what we think is correct practice, based upon experiment, which, when thorough, amounts to demonstration.

In all cases where a tooth is decayed and the pulp is covered by a lamina of dentine, however thin it may be, if there is not actual exposure, we fill. We do not operate alike in all cases ; where the constitution is good and the pulp healthy, and but little or no sensitiveness of the dentine, we fill at once with gold. If there is much sensitiveness of the dentine, that should be remedied by the appropriate treatment. If the pulp is in an irritable condition, by its near exposure to the

changes of temperature, then such treatment should be employed as will restore it to health; and usually it will be quite sufficient for this to cleanse out the cavity, and introduce a temporary filling of "Hill's stopping" or os-artificial, which should remain from ten days to two months, according to the indications. During this time, the parts being protected from the influence of irritants, will have attained a healthy condition, and the pulp will have a better protection, and in nineteen cases in twenty, the tooth may be filled with gold with *success*. Of course, rather more than usual care is requisite in such cases. Where the pulp is slightly exposed, and not too much diseased, the same course may be pursued, and with skillful management, with about the same results. In the majority of cases, with favorable circumstances, a small orifice of exposure, when well protected from foreign influences, will be closed up with bony deposit from the pulp in from ten days to two months, and then it is just as safe to fill as though the pulp had never been exposed. But if it still remains open, and the pulp exposed, then at once make all as healthy as possible, and place over the orifice of exposure a protection of a proper non-conducting material, then introduce a good filling of gold, and all will be well.

We employ other methods of treating such cases, a description of which we have given heretofore.

The Doctor thinks it too absurd for a moment's consideration, that the pulp of a tooth should throw out osseous material more rapidly when a tooth is diseased than when it is healthy, or that it can do anything out of the ordinary course to meet an exigency. How is it in other parts that sustain an injury, as when a bone is broken? Does nature do nothing to meet an exigency? have the parts been provoked to produce more of one constituent than another? is it too absurd for consideration? Nothing more is done in the case of the tooth than the fractured bone. In both cases there is an extra elaboration of bone material, which we think every one can understand, without being very absurd or ridiculous.

T.

Editorial.

BICUSPID PIVOT TEETH.

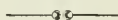
It is a general rule that the six anterior teeth only are susceptible of pivot teeth. The roots of bicuspid teeth, especially when much compressed, or terminating in two fangs, have not been used for the insertion of pivot teeth. But by care and a very simple arrangement, they are susceptible of as perfect operation as the roots of any of the anterior teeth.


For illustration we will describe a case: Mrs. L. presented the left superior bicuspid, with the crown principally decayed away; it had been filled, on both sides, large cavities, and the fang partially filled, as the decay had extended somewhat into it. The root was considerably compressed, and probably terminates in two fangs. The remaining portion of the crown was removed, and the root dressed as usual for a pivot tooth, then removed the gold that had been introduced into the root, and cleansed out the decayed cavity, which was not very large. Then with a drill that measured 20 stubs gauge, passed into the canal at its buccal termination, and also at its labial termination, thus making two small holes in the root instead of one large one. A hole through the center of the fang as large as an ordinary pivot would have divided it. These two holes are about a line asunder, and about three lines deep; they should be made perfectly parallel, which may be done by inserting a wire into the first one, and in drilling the second keep the drill parallel with the wire.

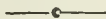
Two wires of the same size as the drill were placed in the cavities, and protruded some two or three lines. Having previously prepared the decayed cavity properly, proceeded to fill, with the wires in place, using adhesive gold; fill the cavity perfectly, then remove the wires, and dress the filling with the articulating surface of the fang. Then dress the wires so they will pass readily into the holes, which being done, take an impression of the part in plaster; the wires will come away with the impression, then get a model from this;

there will then be, upon the removal of the wires, the exact position of the holes of the root, in the model, which will be an exact guide in attaching the pivots.

From this model get a metallic model and counter model ; then swage a piece of plate to fit, and large enough to cover the articulating surface of the root. Then perforate it for the two pivots ; this plate should be laid upon the model, and the pivots passed through it down into the holes in the model already described, and soldered to the plate while in this position. It may then be dressed up for the reception of the crown. This should be an ordinary plate bicuspid tooth, selected with reference to size, shade, and articulation with the opposing teeth. The tooth is then ground to fit the plate perfectly, jutting slightly over it at the labial edge. The plate is then placed on the root, and the tooth adjusted and attached with wax, then remove all together, invest, the tooth back and solder as usual, then finish, and insert. It will pass readily to its place, and maintain its position firmly. It can not rotate or slip out of place, and yet can be readily removed, can be used as well as a natural tooth in mastication ; the pivots will not mar the root ; it can be kept perfectly clean. It sets much more firm than a single pivot crown can. If desirable, it can be easily tightened by a slight spring of the pivots. T.



 WE still use the mallet more than ever, and are more and more pleased with it ; many things can be done with it that can not be done by hand pressure. No one who will use it properly can fail to be pleased with it. We may have something to say on the subject in the next number. T.



A SINGULAR SPECIMEN.

WE have received of Dr. D. L. Pratt, for the College Museum, a rather singular specimen, which we will describe in his own language. "It is a piece of the shin bone of an ox, which I was sawing for mechanical purposes, when I discovered a grain of shot imbedded in the bone, and completely surrounded by it." This has evidently been shot into the leg of the animal, probably when it was

young, and bone material thrown out over it so as to completely imbed the lead in the bone. The bone is about alike perfect on all sides of the shot. Lead remains imbedded in living tissue with perfect impunity ; we know of no other metal that will be thus tolerated.

T.

PERSONALITIES.

PERSONALITIES, precipices, whirlpools and whisky are things to be avoided. It may be dangerous, even, to write about them. However, we will venture a few remarks on the first mentioned.

We are decidedly of the opinion that both writers and speakers should in general "avoid personalities," but we are as well convinced that many who inculcate this sage doctrine have no true idea of its meaning. Many regard it as highly proper to refer to the African gentleman among the fuel, but grossly personal to allude to "the nigger in the wood pile."

We are of the opinion that many complain of personality without any cause. A man writes an article and *publishes* it, and thus renders it public property, as to its language and sentiment ; yet we often find he regards the article as a part and parcel of himself, and practically maintains that whosoever touches it, touches "the apple of his eye." Now we maintain that when we publish an article, any one has a right to object to, or criticise, every word, every letter, every comma, semicolon or period, and that we have no reason to complain if he does, and have still less right to charge him with personality for so doing. If the criticisms are unjust, we are not worsted by them, nor is our article ; if they are just, we are benefited, and our article is merely rendered less capable of doing harm. An article that will not bear such examination should not have been written ; and being written, it should be consigned to the oblivion it merits.

The great want of the world is genuine, manly frankness. In the common intercourse of life, in speaking, and especially in writing, it is refreshing to find it manifested. Its introduction should be hailed as a good omen. It should be encouraged and cultivated. It is more manly, and no less friendly, than the fashionable circumlocution of those who are so sensitive on the subject.

Two noted men once met at Antioch. The one thought the other was in fault, and "withstood him to the face," saying, "If thou, being a Jew, livest after the manner of the Gentiles, and not as do the Jews, why compellest thou the Gentiles to live as do the Jews." Now, if he had held the views of some now living, he would not have "withstood him to the face;"—that was personal. He would have turned from him and said to the audience, "No man can have a better opinion of the gentleman from Jerusalem than myself. He is a great and good man; but I am almost afraid that, for want of thought, (not that I blame him in the least for it,) he has been led into a slight inconsistency, in that he advises those of other nations to observe the rites and customs of the descendants of Abraham, while he, though an Israelite, does not observe them himself."

When Paul wanted to talk *to* Peter, he did it; and afterward, when he wanted to talk *about* him, he did that. W.

SELF SATISFIED.

"I am satisfied, after using them in my practice, successfully, for more than twenty years, that I have attained the desideratum sought."—*Sanford—Cathartic Pills.*

"In short, through the assistance of some superior power, she is endowed with the healing art."—*Miss Tennessee Claflin, the Planet Reader.*

"The madam has valuable remedies of her own discovery for healing the sick and afflicted of all manner of diseases."—*Madam Virginia, the great Russian Prophetess.*

"Again I present my almanac to the public,—I would call the particular attention of every reader to the strengthening cordial—the greatest remedy in the world. The principal ingredient is known only to myself."—*McLean's Almanac.*

"Our journal has already attained such a position, that we feel justified in claiming it to be the representative of the Science and Art of Dentistry."—*Dental Cosmos.* W.

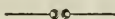
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Original Essays and Communications.



THE BUCCAL SECRETIONS.

Read before the American Dental Association, at Washington, D. C., August, 1860,

BY J. TAFT.

THESE natural products of the animal economy have received some attention and consideration by physiologists and pathologists all along through medical investigation, from the beginning to the present time.

In regard to the value and importance of these secretions, there has been some diversity of opinion, or rather in regard to their functions, though they have usually been regarded as playing a very important part in the incipient stages of digestion.

The insalivation of the food, at the time of mastication, *preparatory* to deglutition and digestion, have been considered the chief functions of the saliva. While these may be considered the prominent offices of this secretion, there are others accomplished by it of no insignificant character; such for instance as aiding in the enunciation of language: without the moistening, lubricating influence of the saliva, how imperfectly, if at all, would language be uttered.

Again, this product could not be retained in the blood with impunity. It is necessary, for the health of the blood,

that every secretion that nature designed should be withdrawn, be duly removed by its appropriate apparatus.

Within the scope of this paper we intend chiefly to consider the buccal secretions, with reference to the influence upon the teeth, both in a state of health and disease.

It seems scarcely necessary here to enter into a minute consideration of these secretions in a state of health; since this has been so often and so elaborately done already. A few remarks here in regard to the nature, composition and elaboration of the saliva, will, however, not be out of place.

The product usually found in the mouth is denominated mixed saliva, it consists of the secretions elaborated by the buccal mucuous membrane, as well as by the various salivary glands.

The saliva, as ordinarily found in the human mouth, is an opalescent, or faintly bluish-white fluid; it is viscid, tenacious, inodorous, and tasteless. After being at rest for a time, it deposits a grayish-white sediment; this consists principally of epithelium scales; these are not seen in the fresh saliva, but soon deposit themselves when the fluid is at rest, and exposed to the air; mucous corpustles also exist to some extent in the saliva.

UNMIXED SALIVA. The products of the different salivary glands exhibit some variety in composition. The saliva of the same person under different physiological conditions, will be different in some respects, and in none more than in specific gravity. Various circumstances will modify it in this particular; such for instance as the amount and character of the food.

Wright has demonstrated that human saliva is more dense after food has been taken than when fasting.

The saliva of a healthy man who had lived for a week on a mixed diet varied in density from 1.0079 to 1.0085, while after a purely animal diet for an equal time, it varied from 1.0098 to 1.0176; and after a purely vegetable diet from 1.0039 to 1.0047.

He also remarks that moral emotions, (rather mental emotions) atmospheric changes, light, sound, etc., exert an influence on the density of the saliva. In two hundred cases he found the specific gravity of the saliva to range between 1.0069 and 1.0089.

Pure saliva should be obtained from the ducts of the salivary glands, in order that it may have no admixture of mucus, nor any foreign substance; it should also be obtained without the aid of irritants or stimulents. "A very simple and ready method of collecting a large quantity of saliva in a short time, is by exciting a strong pressure under the chin, and at the same time titilating the palate with a feather: a feeling of strangulation immediately ensues, during which the saliva is rapidly ejected from the mouth."

The glands that elaborate the saliva are the following, viz: the parotid, the submaxillary and sublingual. The general features of the products of these different glands are very similar; though some have affirmed that a marked difference is found in many cases. My own experiments have shown but slight difference in the saliva from the different glands.

Pure saliva is perfectly limpid and colorless, without odor or taste, and incapable of being drawn out into threads, and of a distinctly alkaline reaction.

Prolonged hunger or the use of indigestible or stimulating food causes the secretion of concentrated saliva. During fasting it approximates, and in prolonged abstinence attains an acid reaction. It is definitely alkaline during and immediately after meals. Its character is quite variable under different pathological conditions, but of this hereafter.

The saliva always possesses the following ingredients:—

First—Potash, soda, and lime, combined with organic matter.

Second—An extractive matter soluble in alcohol, precipitable by tannic acid.

Third—Sulpho-cyanide of potassium.

Fourth—Potash salt.

Fifth—Epithelium and mucuous corpustles; these are very slight in pure saliva.

Sixth—Chlorides of sodium and potassium.

Seventh—Traces of phosphates.

There have been many experiments and analyses made upon the saliva, almost every one of which differs in some slight degree from all the others: These differences, however, are not greater than should be expected, owing to the different specimens operated upon, and the difference in the modes of conducting the experiments. Notwithstanding the discrepances that have been exhibited by these different experiments, yet the leading features and characteristics have been manifestly the same, and fully established.

It is difficult to estimate the amount of saliva secreted in a given time, there are so many circumstances that modify the quantity, that it is difficult to arrive at any thing very definite in this respect.

It is regulated in quantity by the condition of the patient, either constitutional or local, or both. When there is no abnormal condition it will be subject to fluctuations, dependant upon the character of the food employed, and the manner of using that food. Dry food calls forth more saliva than moist, and hard far more than soft; substances of a pungent or irritating nature more than mild pleasant substances. The act of mastication is the most common exciting cause of the secretion of saliva.

The movement of the mouth in speaking and singing excites a flow, unless the speaker is in a high state of mental excitement; then the secretion may be arrested altogether, as is often experienced by timid speakers.

The flow of saliva continues for a brief period after the use of food. Food mixed with water requires very little saliva.

Colin, in his observations on the secretion of saliva, in the solidungulus animals, remarks that the secretions of the two parotids alternate, the parotid of the side on which mas-

tication is going on secretes at least one third more than that of the other side; and when mastication is changed to the other side the corresponding parotid goes vigorously to work: the action of the first partially ceases.

The same rule operates in the secretion of the human saliva, though probably not to quite the same extent.

The parotid glands yield about two thirds of the whole amount of the saliva elaborated; the sub-maxillary about one-twentieth and the sublingual the remainder. The amount of saliva is governed by circumstances. During sleep there is little or no saliva secreted. The sight and odor of food will usually excite a flow of saliva, particularly if there is hunger. Nausea will generally excite a free flow of the buccal fluids; at such a time the mucuous glands become especially active.

The various mental conditions operate variously upon the salivary glands: Fear diminishes the secretion very much; fright checks it entirely; anger also diminishes it; while good humor and mirth increases the secretion. Erotic emotions increase the secretion of the mucuous considerably, and that of the saliva to some extent. Grief augments the secretion of both the saliva and mucus.

Fluctuations in the quantity of water in the blood has but little influence upon the amount of saliva elaborated in a given period. Neither does it change the relative proportion of the solid constituents of the saliva.

THE OBJECTS OF THE SALIVA.—Lehmann remarks, that the office of the saliva may be regarded as three fold, viz: mechanical, chemical and dinamical.

Many kinds of food have but little moisture, and require to be moistened with the saliva in order that more perfect mastication may be accomplished, and especially that the act of deglutition may be accomplished with facility; it lubricates the bolus and makes it manageable in the mouth. Perfectly dry food in the mouth is unmanageable. Without the moistening and lubrication of the food in the mouth, the mucous mem-

brane would be irritated, and ultimately highly diseased by friction; this would result to the mucous membrane of the throat and esophagus, as well as to that of the mouth.

The food is prepared by insalivation for being most perfectly acted upon by the digestive fluids. *The chemical* action of the saliva upon the food is a question upon which there is much diversity of opinion; some maintaining that it serves only to moisten the food, and at that point its influence ceases; others contend that it exercises a concurrent influence with the gastric fluids throughout the process of digestion. There are some points, however, that are well established. By insalivation the food is much better prepared for being acted upon by the gastric fluid than if it was not moistened at all, or than if moistened simply with water. Again, starch is converted into sugar by the action of the mixed saliva. This is probably accomplished by the mucus. Experiments have been introduced that lead us to conclude that the unmixed saliva will not produce that result.

Lehmann remarks, "it can, therefore, no longer be doubted that the saliva in a normal condition, when it is mixed with the food, possesses the property of converting starch into sugar."

Wright considers that one of the more prominent functions of the saliva is that of stimulating the stomach, and thus promoting the digestive process. This rests, however, quite as much upon hypothesis as demonstration.

PATHOLOGICAL CONDITIONS.—The diseased and unnatural conditions of the buccal secretions have not received that attention and investigation which we think the subject demands; this arises from the supposition that the subject is one of little importance; and from the difficulties attending such investigation.

The saliva is subject to many and great changes, by disease. The saliva proper may be changed from its natural to a definitely acid reaction; or it may be changed to more

than its alkaline condition. This latter is exhibited when salivary calculus is rapidly deposited upon the teeth.

Any change of the mucus is usually to an increased acidity. When this condition is produced to such an extent that it is not neutralized by the saliva, as is generally the case when green tartar is deposited upon the teeth, it then becomes a source of mischief.

Probably in no cases except those of an extreme character is there any direct injury upon the teeth by these changes of the saliva; but that the decomposition of foreign substances in the mouth is greatly facilitated by these changes, there can be no doubt.

The extent of the injury resulting from vitiated secretions will be exceedingly various, depending upon a great variety of modifying circumstances.

The saliva becomes changed to an abnormal or diseased condition in two ways. First, by a vitiated state of the blood, and second, by a diseased condition of the glands; the latter is often complicated with the former. The saliva is more frequently affected by a deteriorated state of the blood; but the mucus by an unhealthy condition of the mucous follicles. These being situated in the mucous membrane near the surface, are more exposed than the salivary glands to the influence of local irritating causes.

The salivary glands are often required to perform more than the natural amount of labor, sometimes from local stimulus, as in the use of tobacco, or any similar agent; and from the constant use of the jaws in mastication, and from general constitutional causes, as in ptyalism, and various vitiated conditions of the blood.

When any organ is over-tasked, its production is necessarily deteriorated. A general inflammatory condition of the system produces an acid state of the saliva. Rheumatic affections, if general, produce the same result.

In febrile diseases the secretion of the saliva is very much diminished and sometimes checked altogether; then, the se-

cretion of mucus being kept up, the teeth suffer injury, for the mucus, at such times, is always in a vitiated condition when secreted, and changes rapidly to a worse condition while in the mouth. The water evaporates and leaves a thick tenacious sordes covering the teeth, and lining the mucous membrane of the mouth. During this state of things, the teeth, without great care, are injured extensively and rapidly. The utmost care should be exercised to keep the teeth clean during a time of sickness, and especially when this peculiar condition exists. Much of the injury attributed to medical agents is dependent upon just the state of things to which reference has been made.

This vitiated, thickened, decomposing mucus will act directly and with great rapidity upon the teeth. It also facilitates the decomposition of the foreign substances with which it may come in contact, or commingle, and thus indirectly operate an injury upon the teeth.

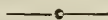
A peculiarly vitiated state of the saliva is often found in connection with a lymphatic temperament, especially where there is a strumous diathesis. The saliva is viscid, somewhat thickened, is easily drawn out into shreds or strings, it does not readily mix with the atmosphere, does not become frothy. Usually when there is this state of the saliva, the teeth decay very rapidly, and are very sensitive, especially if the constitution of the teeth is good or medium; but if they are poorly organized, the vitality may be destroyed in advance of the decay. Saliva in this condition operates rapidly upon the teeth, both directly and indirectly. All the care that can be bestowed upon the teeth in respect to cleanliness will not arrest caries nor change its character while the buccal secretions remain in the condition just described. The mucous membrane of the mouth is always in a more or less irritable condition in these cases, and this will be kept up during this state of the saliva, and probably by its influence chiefly.

In order to remedy the evil results from this condition of the saliva, it must be restored to health; this can only be

done by constitutional treatment, for it doubtless depends upon a depraved state of the blood. The secreting organs are, doubtless, always more or less affected; but when the original cause of the difficulty is removed, the secreting apparatus will assume a normal condition and a healthy action.

There is another depraved condition of the saliva not so marked in character nor injurious in its effects as that just referred to. It is characterized by a semi-oily condition; it is free from that tenacity and stringiness exhibited by some other depraved conditions. It insinuates itself into every interstice where it can at all approach; it will moisten the surfaces of the teeth when the utmost care is taken to protect them; the dentist will thus often find himself exceedingly annoyed by saliva of this character. Where it exists, it is almost impossible to keep an operation dry. This peculiarity is derived from the mucus, which in such instances is elaborated very freely.

The pathological changes and conditions to which the buccal secretions are subject is a matter upon which but little has been written, and less investigation made, especially with reference to their influence upon the teeth. It is a field in which investigation is somewhat difficult, yet there are no insurmountable difficulties in the way; it may be as thoroughly explored as some that have received much attention. It is an exceedingly important subject to the dentist and his patient; one that we all have neglected too long. Now in the future let us give this subject the attention its importance demands.



SENSITIVE DENTINE.

BY GEO. F. FOOTE, M. D.

FROM the days of Hippocrates to the present time, the honorable profession of medicine has passed, and is even now passing, through successive changes. The laws of cure are

viewed from different stand points, and the means used to acquire the desired ends vary with each succeeding generation, as each with a progressive spirit deems itself wiser than its predecessors.

This desire for change and advancement is found in all departments of civilized life.

And in this respect, what has been the history of medicine and other sciences, will doubtlessly be the history of dentistry.

Indeed we already see changes, and with thankful hearts welcome the new light as it daily flows in upon us. And may it grow brighter and clearer as we grow older and wiser. And while watching for this light, let us do it with a helping hand, acting well our part; developing and radiating truths fraught with blessings to mankind that shall pierce the circumference of our individual existence and tell to the world that we, too, have performed a use while in it.

As we look over some of the ancient works upon medicine, written by the older savans, we find in them many singular, and in appearance to us, very absurd prescriptions for the sick. So ridiculous do they appear, that one can not help but smile as he reads, at their crudeness and apparent folly.

Query—will the future look back to this time and find similar and equally as crude absurdities in the present profession of dentistry? Are the writings of our wise men, gifted with all the lore found in modern dentistry, to be laid upon the dusty shelves of the future profession, and only kept as literary curiosities, to excite the ridiculous in those who revel in ancient dental literature? It would be a noble work and a pleasant duty, could we but lift the cloud from, and unveil to ourselves our own errors and short comings in practice, a knowledge of which would lead to valuable improvements, that might subserve present uses and anticipate the future.

We are led to these reflections by a careful study of what

is written and taught in regard to the various affections of the teeth and the treatment therefor; particularly that of Sensitive Dentine.

Whenever by decay or accident the enamel is removed from a portion of the tooth bone, the tubuli which serve as mediums of sensation are ruptured and exposed to the atmosphere and other irritants of the mouth. By reason of which these often take on augmented sensibility, become painful to the touch, and by common consent we call it *Sensitive Dentine*. Healthy dentine is not devoid of sensibility, but it is sensitive only to a certain extent, and can be incised with but little suffering. Not so with that which has become irritated from exposure. This is exceedingly painful to the most delicate manipulations; that part being most so where the anastomosing or terminal branches of the tubuli are most numerous, viz: at the juncture of the enamel and tooth bone.

But sensitiveness does not always follow decay. And in such teeth the tubuli become solidified in advance of the decomposition, hence are incapable of conveying nervous sensation. And here is one of the beautiful results growing out of the efforts of the organism to protect and preserve, by proper safeguards her delicate and important structures, against threatened violence from external causes.

The presence of a foreign body stimulates the vital forces to produce this change. Hence we see in teeth where the decay has been general, this change or substitution of cementum, or if you please, this ossification extending to the obliteration of the entire pulp; somewhat analogous to the formation of pearls in oysters, the growth of which is excited by the presence of a grain of sand.

The same results are induced by a proper filling. The tubuli immediately surrounding it being in time solidified.

This fully explains to us why teeth that are irritated by the changes of temperature through the medium of a metallic filling in time lose this augmented sensibility.

With these facts before us, what are the indications when

from sensitive dentine the necessary manipulations to secure a proper filling are too painful? or when the cavity of decay is so large that there remains but a thin lamina of dentine covering the pulp, so thin that the presence of a metallic filling, from its highly conductive power, may, with the changes of temperature and electrical influences induce inflammation and suppuration? Or when a healthy pulp or a stray branch from it is slightly wounded with some hemorrhage? What is the practice recommended through our dental journals and conventions, and in common use among dentists? What is "*the treatment*" that every tyro in practice talks so much about? What, but the application of an irritant, escharotic or some destructive agent.

Some apply arsenious acid, some cobalt, some tannic acid, some nitrate of silver, some chloride of zinc, some nitric acid, and nearly all creosote.

And what are the consequences? Exactly the same as when similar applications are made to the abraded surfaces of other parts of the body, viz: inflammation and its sequences, more or less suffering and frequent loss of the pulp and sometimes of the tooth.

Now to us this crude way of doctoring so important an organ as a tooth seems all wrong. Our reason does not assent to it. Our practical experience does not convince us that there is any philosophy in it or good results following it. The discouraging reports to the dental associations of those who from their ill success have abandoned the saving of a living pulp, that has been in the least exposed, or that has but a slight covering of dentine over it, confirm us in these opinions.

To make our prognosis favorable we must, so far as we have the means of doing it, allay all irritation and avoid as much as possible all causes producing it. The parts we have to deal with are most delicate in their organization and as susceptible to external influences when exposed as any of the soft tissues not incased in bone.

Are we then to allay or prevent irritation by the application of agents that chemically destroys the vitality of the tissues brought in contact with them? Does this not excite an inflammation beyond the parts destroyed, or rather is it not a necessary sequence from the efforts of the system to throw or slough off the effete matter caused by these escharotics? What does the surgeon do when the surface of the body is denuded by an incision or by a removal of any portion of its natural covering. He excludes the air by some artificial contrivance, brings the cut surfaces in apposition and leaves the rest to the *vis medicatrix natura*. What does simple nature unassisted by the surgeon do? She covers the exposed surfaces with a crust or scab and thus excludes the air and other influences while the internal changes are going on for the restoration of the parts.

All these point out to the dentist the rational treatment of sensitive teeth, which consists in sealing up hermetically the cavity of exposure to the exclusion of all irritating influences with some soft filling until through the vital forces such physical changes are made as shall render them insensible to the manipulations necessary to a proper filling and to the presence of gold.

That these changes will occur resulting in a healthy condition of the tooth, we are fully confident of, from our own experience and observation.

This, if you please, may be called the expectant treatment, and *cæterus paribus* will not be found wanting in its results, except in some vitiated states of the organism where there is a deficiency in the recuperative powers.

In conclusion, then, should we in preparing a cavity find our patient suffering much from sensitive tooth bone, we would remove as much of the decay only, as could be done without giving pain, and after drying out the cavity hermetically seal it up with some of the preparations of gutta percha that are non-medicinal. Should the cavity be dishing or

too shallow to retain a filling we would use gutta percha made adhesive by the addition of rosin or gum elemi.

In from six to ten days we should expect to be able to excavate and refill the same cavity, to our own entire satisfaction without suffering to the patient. But the time necessary for this change may vary in different patients, depending upon the quality of the teeth, the age and the condition of the system. Should we find the parts sensitive from a close proximity to the pulp cavity, or should we accidentally wound a stray branch from a healthy pulp so as to induce hemorrhage we should pursue the same treatment with the addition of a longer interval of time between the temporary and permanent fillings, say from two to six months.

Thus would we treat them; abjuring the direct application of all medicaments or stimulents of any kind whatever. It becomes then simply a question of time and patience which are known as sovereign remedies to many of the ills that flesh is heir to.



ARTIFICIAL DENTURES.

BY DR. J. ALLEN.

Read before the American Dental Convention at Saratoga, August 7th, 1860.

IN the construction of artificial dentures there are many important considerations that might be dwelt upon with interest would time permit, but on this occasion we will dwell mainly upon two leading points which lie at the threshold of this branch of our profession, for, to be successful in this department, we must begin right, and keep right, in order to come out right.

We will first consider the attainments necessary for him who constructs artificial dentures, for here is the starting point. And secondly the modes employed in their formation.

It is said there are five hundred causes for the stopping of a watch. If this be true, (and the books affirm it,) how

many causes are there that would defeat a good practical result in forming a set of artificial teeth. From the taking of the impression through all the different stages of the work, to the final completion of a denture, various causes may occur, either of which might prove fatal to perfect success. In order to prevent a defeat from any of these causes, let us look for a moment at the acquirements necessary for him to possess, who is to reproduce those organs which nature with all her perfections had previously formed; for, whatever be the mode employed by man, he will have to learn that it is the height of art to conceal art. This, together with practical utility, should be the great point aimed at in the construction of artificial dentures, and he who attains this end must be an artist in the true sense of the term. This requires thorough mental training and careful scientific research.

According to our best lexicographers, an artist is one who is skilled in the practice of some art, in which science and taste preside over the manual execution. It is thus that the artist is distinguished from the artizan; one copies from the works of nature in executing his designs, the other from the devices of man.

The artist finds resources in his own mind. There they are concealed from the world, and no human power but his own can bring them out of the storehouse in which they were coined, while the artizan works by fixed rules and principles which are transmitted from one generation to another, and serve as unerring guides for the mechanic, by means of which he is enabled to reproduce his fabrics ad infinitum, and all precisely alike, and each serve the purpose intended. A dentist who constructs artificial dentures as they should be, must possess both of the above acquirements in a high degree, for the great variety of cases that may occur in his practice will require the skill of the artist to conceive, and that of the artizan to execute his designs, in order to meet the various exigencies involved in his operations. He has no fixed forms or rules by which to be governed, for he encoun-

ters some new phase in each succeeding case. In one instance he has to insert teeth not more than the fourth of an inch in length, which even then appear too long; in another, those of an inch in length appear too short. Mrs. A. requires very large attachments to restore the sunken portions of her face, while Mrs. B. can scarcely bear the thinnest plate in her mouth without producing distortion.

The light and darker shades, the peculiar tint and tone of the teeth and gums, the size, form, position and expression of these organs, together with their perfect adaptation and harmony with the other features of the person for whom they are intended, require the finest powers of discrimination and manly execution, in order to conceal the art employed in forming them, which can now be done more perfectly than at any former period in the history of man. But to do all this the operator must possess a knowledge of several other branches of art and science, that he may bring to his aid such auxiliaries as are necessary to accomplish his purpose.

Metalurgy will claim his attention, that he may know the nature and properties of the various metals used, and the means of preparing them for dental purposes.

He must also understand something of mineralogy that he may be able to characterize, distinguish, classify and apportion the various minerals used in his profession, together with the art of converting them into artificial dentures, especially if he does continuous gum or block work. Our dental colleges and the community require of him a knowledge of anatomy, physiology, chemistry, and therapeutics, together with the principles and practice of dental surgery.

He must also possess mechanical skill which involves an insight into several of the trades, such as working the precious metals, modeling, moulding, etc., etc.; in short, he must be a sort of compound man, embodying several other branches of business in order to perfect his own.

All these form only the foundation of his professional

career. The superstructure has yet to be built, which requires energy of character, in order to grapple successfully with the difficulties he will have to encounter; and perseverance equal to the task of overcoming them.

He also requires the mental capacity of a skillful tactician who can hold a sway over his patrons, that he may win and retain their confidence and esteem, however various their temperaments, views, or caprice. He must possess sufficient flexibility of mind to keep them all adroitly poised, so that each may add strength to his professional merit, and to crown all, he should be a perfect gentleman, with all the accomplishments that adorn his title.

With these acquirements we claim for him a position in the front rank of his profession. But a respondent says, that very many of those who construct artificial dentures do not possess all these qualifications; that they are not artists; that in the execution of their work their proximity to nature is not so near as to conceal the human agency employed; that their artificial work has not that graceful, natural, and life-like appearance which characterize the natural organs; that there is a want of proper tone, expression, adaptation, and practical utility, in part, if not all, of these essentials, and that their dentures exhibit only a stiff, mechanical appearance, that enables every beholder to spot them at once as artificial teeth, and hence the subordinate position of the mere mechanical dentist, whose claims to supremacy are but small, and whose merits are still less.

Alas! alas! this is all too true,—for such we do not claim an elevated position. But it does not follow that the well qualified should be placed upon the same level with those who form the lower ranks in this department. No, let those who occupy a higher ground stand firmly where they are, and not relinquish to their inferiors that branch which is of so much importance to the civilized world, as some of our best operators have done, especially in the larger cities.

Let these worthies stand at the helm, and take special cognizance of the subject.
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nizance of every new phase in their practice ; let them examine with care all the points in each succeeding case, and devise such means as will best secure the ends sought to be attained ; for with their experience and discrimination they can see the end in the beginning of their operations, and provide for all contingencies in due time, but the novice can not perceive them until too late for remedy. Let those who are below ascend to the higher ranks, bringing with them science, art and skill, gathering all along their pathway here a little and there a little, in order to fill up the great storehouse of knowledge from which success must flow. In reference to the various modes now in vogue, they all seem to have their place, and may be adopted under the different circumstances attending each particular case. When consulted, the operator should examine carefully and then decide as to what method will secure to the patient the greatest degree of practical utility, and personal gratification, and then advise accordingly, bearing in mind that whatever be the mode, skill, taste and judgement must preside over the operation, for there is no system so perfect as to render these unnecessary, and the farther the method is from yielding results true to nature, the harder it will be for the dentist to construct his work so as to elude detection in the mouth. In this respect we have been able to approach much nearer the acme of our ambition, by means of the continuous gum system, than any other with which we are familiar.

Objections are urged against every mode in use, some of them real, others speculative, but as time will not permit detail, I deem it proper to dwell more particularly upon what is called continuous gum work, although this term does not convey an adequate idea of the full embodiment of this system. As this style of work speaks for itself, nothing that we could say by way of eulogium would add to its merits, we will therefore notice the objections urged, by some to this method. It is said that dentures made in this way are too heavy. This objection is merely speculative,

and has *no weight practically*, for with a good fitting plate, a patient cannot perceive the difference between a denture weighing five or fifteen pennyweights when in the mouth, for it will require several pounds, besides the weight of the teeth, to dislodge them. Another objector says they are too solid, they will not yield sufficiently when biting upon them, that they ought to have joints and crevices so as to spring in the mouth. This is an erroneous theory, for the natural gum under the base of the teeth will yield sufficiently for all practical purposes.

Mrs. W. says they are liable to break in a wash bowl or upon a marble slab or floor. The best remedy for this is to not let them fall. Do people continue to use pewter plates because china are liable to break if they fall? Shall we discard the use of watches because they are liable to similar accidents? But Dr. B. says if a tooth gets broken it can not be repaired. This is also an error; a single tooth or any number required can be re-inserted with comparatively little trouble to one who is accustomed to this style of work.

Dr. S. objects because the teeth clatter and make a noise when used. True, they have made considerable noise in the world, and will continue to make more. But the clattering should be stopped. This is owing to the lower plate being too wide and riding upon the muscles, ducts and glands which buoy up the lower denture and keep it afloat in the mouth; or, the teeth may be too long. To remedy this the plate should be made narrower or the teeth shorter.

Dr. D. asserts they are liable to break by use in the mouth. Does any other method fail? From long practical experience we *do know* that when continuous gum work is properly constructed the per cent. of breakage is far less than by the old methods.

We will now look at some of the reasons why this style of work fails. In most instances where this occurs they can be traced to some defect in the manipulations, or want of judgment in constructing the denture.

One of the common defects occurs in the soldering of the teeth to the plate. Platinum, unlike silver or gold, absorbs the solder commonly used, so that if the joints are not perfectly fitted the gold (used for solder) will become absorbed by the subsequent heatings into the platinum, and leaves no metallic union between the teeth and plate. To remedy this the inside rim or stays should be in positive contact with the base plate and then firmly soldered.

Another defect occurs from a want of experience with the furnace; a piece may be overbaked, or not baked hard enough, or not properly annealed, either of which would cause the body and gum to be brittle. To avoid this, the first bake should be scarcely glossed, the second a little harder, (but not perfectly smooth as though it were glazed,) and the last, or enamel heat should be a little higher than the preceding. This will give an even temper to the piece, and prevent crazening or cracking, if it be then properly annealed, which consists in leaving it in a heated muffle for several hours (say over night,) after which it is withdrawn from the muffle in which it was fused.

Another cause of failure arises from wrong articulations, the teeth being placed outside the alveolar ridge which throws an undue amount of leverage or strain upon the denture. To remedy this the upper teeth should be so arranged upon the plate as to stand perpendicularly upon the natural gum, and the pressure when the teeth are closed should rest upon the inner rather than the outer cusps of the molar and bicuspid teeth. In lower sets the back and side teeth should incline inward sufficiently to antagonize with the upper one, taking care not to infringe too closely upon the tongue. The above remarks pertain more particularly to full sets of teeth. There is also an apparent want of judgment on the part of some who construct artificial dentures, for in point of strength they make them as a mechanic would wheel-barrows, all alike, instead of which some cases require to be four times as strong as others. For example, if an upper artificial den-

ture antagonizes with good natural back teeth below, the force of the jaws, in masticating will be far greater than if there are artificial teeth below. There are many modifying circumstances which may vary the necessary degrees of strength for a denture, which the operator should take into consideration, and then construct his work accordingly. In one instance a thin plate (say thirty-four) with light inside rim and but little body and gum would be amply sufficient; while another case would require a twenty-eight plate with a double or tripple inside rim with a corresponding portion of body and gum. *Let it be put down as a fixed fact, that this system is a correct one and that continuous gum work can be made strong enough to meet all the requirements of any artificial denture*, provided, good judgment and skill direct the manipulations.

But still there are those who have come to the sage conclusion that it will never do. So said those who opposed the theory of Gallileo, when he proclaimed to the world that the earth turned upon its axis, and although compelled to sign his recantation, he could not suppress the conviction which gave utterance to the ever memorable expression, "*but it does go.*"

So with continuous gum work, *it does go*, and ever will while artificial dentures continue to be made

Coloring the Bones of a Fœtus by Mixing Madder with the Food of the Mother.—At a recent meeting of the Academie des Sciences in Paris, M. Flourens, according to the *Gaz. Hebdom.*, presented a fœtus whose bones and teeth were all of a most beautiful red. The mother had been subjected to a diet mixed with madder during the last twenty-five days of gestation. The same phenomenon has frequently been observed in lower animals.

MALLE T - I N G.

Of all the hobbys e'er bestrode
 By doctor, priest or poet,
 The very worst that e'er was rode,
 And one that neither spur nor goad,
 Or both combined, could force a pace
 So fleet, that in an even race
 A snail would not outgo it—
 Is that old foggyish lumbering "notion,"
 "Propelled by wife or helper's motion,"
 Apostrophized "My Mallet!"

An implement of much avail,
 When modeled on an ample scale,
 For driving posts, or "mauling rails,"
 To calkers, carpenters and tanners,
 As necessary as their dinners;
 And, therefore, were its praises sung,
 The grateful Peans from among
 The strong armed laborers should ascend
 To hail the mallet; as a friend
 Tried—trusty—indispensable!

But that ever a dentist should smuggle it in
 To assist him in *filling*, with gold or with tin,
 On sensitive dentine and that very thin—
 ('Twixt the plugger and nerve) is so serious a sin—
 Against reason, and judgment, and good common sense,
 As to merit the verdict of "malice prepense."

But dentists there are
 Who boldly declare

That the maul-it in process—or whate'er they call it
 The difference is trifling 'twixt mallet and maul it—
 Is good for the patient, quite mild on "mouth tissue,"
 Is safe for the tooth,—and if in the issue,
 Brain, tissue, and tooth survive the confusion;
 Why—the method is preferable far to the rushing
 Of hand force in packing a carious stump,
 By the difference in pain—between a push and a thump—
 Then "*try* it profession, before you abuse it;"
 Try it all ye who have wives to help use it;
 Bachelors try it! no fear you'll miscarry,
 Should a helper be needed, you surely can marry!
 Try it on soft foil, adhesive, or crystal;
 If the mallet should fail, shoot it in with a pistol;
 For the patient whose nerves are proof to the one
 Is not likely to flinch should you fill with a gun!—E. J. W.

Proceedings of Societies.

AMERICAN DENTAL CONVENTION.

THE sixth annual session of the American Dental Convention was held at the Metropolitan Hall, at Saratoga, on Tuesday, Wednesday, Thursday, and Friday, August 7th, 8th, 9th and 10th, 1860, commencing on Tuesday, the 7th, at 10 o'clock, A. M.

The Minutes of the last meeting were read and approved, after which those desiring to become members enrolled their names and paid the annual dues.

LIST OF MEMBERS.

New Hampshire—P. A. Stackpole, Dover.

Vermont—M. Tefft, W. Poultney; H. Kingsley, Middlebury; E. V. N. Harwood, Rutland; D. W. Prime, Brandon; L. Gilman, St. Albans; D. W. Prune, Brandon; A. P. Hall, Rutland.

Massachusetts—I. J. Wetherbee, Boston; L. A. Cox, Pittsfield; C. S. Hurlburt, Springfield; S. G. Henry, Westboro'; Thos. Palmer, Fitchburg; F. Searl, Springfield; W. L. Bowdoin, Salem; J. M. Gregory, Southbridge; George T. Cook, Milford.

Connecticut—R. G. Reynolds, Waterbury; Saml. Mallet, New Haven; W. W. Sheffield, New London, W. Potter, Norwich.

New York—A. Westcott, Syracuse; D. Vandenburg, Oswego; A. McIlroy, S. Covell, New York City; A. N. Priest, Utica; T. H. Burras, New York; P. Hogan, Waterford; E. F. Wellson, Rochester; B. S. Brown, Buffalo; J. C. Gifford, Westfield; W. B. Hurd, Williamsburgh; B. W. Franklin, New York; D. S. Golday, Oswego; R. G. Snow, B. T. Whitney, Buffalo; S. W. Robinson, Watertown; S. P. Arnold, Ballston

Spa ; J. S. Latimer, New York ; Thomas D. Evans, New York Mills ; J. C. Munroe, Brooklyn ; E. A. L. Roberts, A. Merriman, W. B. Roberts, F. H. Norton, George H. Perine, New York ; S. L. Smith, Clayville ; W. H. Dwinelle, John Allen, New York ; M. W. Wilson, Saratoga ; F. E. Parkman, Troy ; S. B. Palmer, Tully ; Geo. E. Knox, Glenn's Falls ; Jos. Chandler, Syracuse ; Jas. C. Duell, Amsterdam ; A. C. Clark, Poughkeepsie ; George Clay, New York ; J. P. Beardsly, Clinton ; E. Beckwith, Westmoreland ; D. Knowler, Schoharie ; S. W. Thurston, Fort Edward ; John E. Savery, Cayuga ; W. H. Clark, Little Falls ; N. W. Shattuck, Troy ; J. S. Dodge, jr., New York ; J. W. Tefft, Ticonderoga ; J. C. Austin, Albany ; Wm. Dalrymple, New York ; W. L. Lee, Sodus ; J. A. Perkins, Albany ; C. L. Reik, Schuylerville ; Chas. S. Niles, J. D. Chevalier, New York ; H. Jameson, jr., Lyons ; A. C. Haws, New York ; L. W. Rogers, Utica.

New Jersey—G. T. J. Colburn, Newark.

Pennsylvania—S. S. White, Philadelphia ; C. B. McDowall, Comeansville ; T. L. Buckingham, J. R. McCurdy, J. M. Asay, J. F. Asay, Philadelphia.

Virginia—James Johnson, Staunton.

South Carolina—B. A. Rodrigues, Charleston.

Georgia—F. Y. Clark, Savannah ; H. B. Arnold, Thomasville ; W. Johnston, Savannah.

Louisiana—D. Bentley, Ponchatoula.

Tennessee—E. D. Wheeler, Murfreesboro' ; C. F. Münter, Jackson ; W. H. Morgan, Nashville.

Kentucky—A. S. Talbert, Lexington.

Ohio—W. A. Pease, Dayton ; J. Taft, Cincinnati ; W. H. Atkinson, Cleveland.

Long Island—S. W. Sutton, Green Point.

Florida—P. P. Lewis, Tallahassee.

District of Columbia—M. Loomis, Washington.

Illinois—W. W. Allport, Chicago.

France—C. S. Putnam, Paris.

England—E. Gidney, Manchester.

The Executive Committee was called, and presented the following report, viz :

- 1st. Reading Minutes of last meeting.
- 2d. Reports of Officers and Committees.
- 3d. Admission of Members.
- 4th. Election of Officers.
- 5th. Retiring President's address.
- 6th. Induction of Officers elect.
- 7th. Miscellaneous Business.
- 8th. Essays and Discussions.

All Essays shall be read to open the discussions on the subjects to which they relate, and they shall be limited to 20 minutes in length.

I. ARTIFICIAL DENTURES.

Preparing the Mouth.

Materials for and modes of obtaining impressions and models.

Various Bases and their Manipulations.

Metals.

Minerals.

Gums.

II. STRUCTURE AND NUTRITION OF THE TEETH.

III. IRREGULARITIES. *Causes.*

Treatment.—Prophylactic,
and Remedial.

IV. SENSITIVE DENTINE. *Pathology.*

Cause.

Treatment.

V. EXPOSED OR WOUNDED PULP.

Prognosis.

Treatment.—Preservative,
and when devitalized.

VI. DISEASED DENTINE.

Pathology.

Causes.—Remote and proximal, including the effect of different diseases and medicaments upon the teeth.

Treatment.—Prophylactic, *general and local.*

Remedial, *general and local*, including materials for and modes of filling.

N. B.—No member to speak more than fifteen minutes or more than twice upon the same subject without permission.

9th. Exhibitions of Models, Improvements or Inventions, with Miscellaneous Discussions or unfinished business.

GEO. F. FOOTE,	}	Executive Committee.
JOSEPH RICHARDSON,		
T. H. BURRAS,		
JEREMIAH MASON,		
S. W. ROBINSON,		

The Chair announced that the election of Officers was next in order.

The Chair announced Drs. Burras, Rodrigues and Searl as tellers. A number of candidates were nominated and balloted for, when it was found that Dr. T. L. Buckingham, of Philadelphia, was elected President; Dr. B. A. Rodrigues, of Charleston, S. C., Vice President; Dr. B. W. Franklin, of N. York, Recording Secretary; Dr. I. J. Wetherbee, of Boston, Corresponding Secretary; Dr. A. N. Priest, of Utica, Treasurer.

The Executive Committee for the ensuing year consists of Drs. F. Y. Clark, Savannah, Ga.; F. Searl, Springfield, Mass.; B. T. Whitney, Buffalo, N. Y.; B. D. Wheeler, Murfreesboro, Tenn.; and Wm. A. Pease, Dayton, O.

The retiring President made the following remarks:

RETIRING PRESIDENT'S ADDRESS.

Gentlemen of the Convention:—The next thing in the order of business, as arranged by your Committee, is an address by the retiring President. I should have been well pleased if your Committee had also given me a subject. As it is, there is no particular question before the House, and we will, if you please, consider ourselves in “Committee of the Whole, on the State of the——” *profession*.

I hope gentlemen will not be alarmed at the allusion; I do not intend to make a long speech, but on the contrary a very short one. I therefore protest against your leaving the house or reclining your heads for a nap, for I shall be done almost before you could get your liquor or compose yourselves to sleep.

When we look at Dentistry as it is, and compare it with

what it was a few years ago, we are astonished at the progress that has been made. There is probably no art or science in which there has been such great advancement in the same length of time. And this change is seen not only in what has been attained in the principles and practice of the profession, but also in the character and standing of its members.

It is but a short time since all that was known of dentistry was thought to require no higher talent or skill than that of a village barber or blacksmith. But it has now risen to the dignity of a respectable profession, which, to be successfully followed, demands long study and thorough training, with an amount of scientific knowledge and practical skill equal to that of any other profession.

It must be confessed, however, that many who "profess and call themselves" dentists are sadly deficient in the qualities and qualifications mentioned. We have able writers—learned professors and skillful operators; with, perhaps, a fair proportion of members of respectable talents and attainments, but there is still among us a large class of mere *tooth-tinkers*, who are scarcely worthy to rank with the barbers and blacksmiths of former days.

It is true that quacks and pretenders are common to all professions and avocations, but they are more degrading to dentistry, because the public has no certain means of distinguishing between the worthy and the unworthy.

The swarms of charlatans that hang around other professions are known to be outsiders, with no title to stand among *regular* practitioners. But any man may open an office and call himself a dentist. No diploma, license or certificate is necessary to make him just as regular as the best. There is among us no recognized authority to declare who are and who are not qualified to practice, nor have we any certain rule by which that qualification could be determined. If we were to require a regular course of study, it would exclude many of our best dentists, who commenced practice when there were

no adequate means of obtaining a dental education. In thus attempting to pull up the tares, we should pull up the wheat also.

This is a state of things incidental to a new profession. The demand for dental service in this country opened a wide and almost unexplored field of investigation, which, with its promised emoluments, attracted great numbers into the practice. Among these were many ingenious, inquisitive men, who, untrammelled by precedents, and unawed by authority, pursued their experiments with a freedom and boldness, not always indeed to the advantage of their patients, but resulting on the whole in valuable improvements and discoveries.

These, and such as these have contributed much to make dentistry what it now is. But they have been succeeded by a horde of impostors who are a disgrace to the profession.

Is there no way of cutting them off? Must we always submit to such associations? I would not be arrogant or exclusive. It may be desirable, it is certainly inevitable that there should be a wide difference in the standing and attainments of dentists. I would recognize the humblest degree of skill that can be honestly useful among any class of people. But to be obliged to stand among impudent knaves and charlatans, with nothing to distinguish us from them, is too humiliating to be endured.

It is a legal maxim that where there is a wrong there is a remedy. Perhaps, in this case it is difficult to find the remedy, or to apply it when found. Our condition is anomalous. We are standing on the body we wish to move.

Well, gentlemen, I have nothing new to recommend. The only remedy for the evil, which occurs to me has been often proposed. It was particularly insisted upon in a letter to the New York State Dental Association, written by Dr. Westcott last September. It is in substance this:

That a number of our most prominent dentists in this State (and the same may be done in other States) should obtain a charter from the legislature for a Dental Institute, with power

to hold property, establish a library, provide lectures, etc., and to grant diplomas to such persons as after due examination should be found qualified to practice.

This plan may not be without objections, but it seems to be the only one that is now practicable; and I am sure it could be carried into effect if the leading members of the profession would give it their support. But precisely here is the difficulty. Many of our most eminent dentists persistently stand aloof from all organizations for fear of being associated with the class of persons of whom I have spoken.

This is wrong. It is selfish. It is in their power and it is their duty to do something to purify and elevate the profession to which they belong. In refusing to do this, they illustrate the virtue of those politicians who profess to be for "the greatest good of the greatest number," but with whom the greatest number is always *number one*.

Let these men step down from their lofty pedestals and lend a helping hand to their laboring brethren, and they will soon find themselves belonging to a profession of which they will have no cause to be ashamed.

As I promised to be short, I will not now pursue this subject farther. Much has been said of late about "the elevation of our profession," and I have suggested one of the readiest means of doing something towards that end. But after all, we must not expect too much from this or any other organized effort. I said the evils of which we complain are incidental to a new profession. We must be patient and wait for the operation of causes that will slowly but surely bring about a change.

Some have looked to this convention to be the great winnowing machine that should separate the chaff from the wheat. But it never had any such purpose or design. If there was any great danger of our being overrun by unworthy persons, we could adopt some restrictions for our own protection. But we have so far had no cause to complain.

Permit me to say, in closing, that in reference to the ele-

vation of our profession, there has, in my judgment, been too much of boasting and self-glorification among us. Some have been too forward in *pressing* the claims of dentistry rather than wait for them to be recognized by the community. No person or profession ever attained a permanent standing by talking big or putting on airs. The best way to secure respect is to deserve it, and the surest way of elevating our profession is for us to individually elevate ourselves.

It only remains for me to thank you, gentlemen, for repeated expressions of your confidence and esteem, and to assure you that after service in office for three successive years, I now retire, with unabated interest in the objects of this convention.

Drs. ALLPORT and DWINELL were appointed to conduct the President elect to the chair.

On motion, a vote of thanks was tendered to the retiring officers.

On motion, it was

Resolved, That this convention hold its sessions as follows:—

Meet at 9 a. m. adjourn at 1 p. m.

“ 4 p. m. “ 7 p. m.

The new President was then conducted to the chair, and after a few remarks from him the Convention took a recess to 4 o'clock.

4 O'CLOCK P.M.

The Convention met according to adjournment. The President in the Chair. The regular order of business was taken up, viz: “Artificial Dentures.”

Dr. B. W. FRANKLIN read an interesting and instructive paper upon Mechanical Dentistry. (Which will be published—Rep.)

Dr. JOHN ALLEN, of New York, also read a paper on Mechanical Dentistry, upon the structure of artificial dentures,

(which is published in full in this number of the Register.—Rep.)

On motion, it was

Resolved, That no person who has not signed the roll and paid \$2 00 shall be considered a member of this Convention; neither shall his name appear in the printed proceedings.

Dr. F. Y. CLARK was called upon, and read a paper upon the subject of obtaining metallic dies from the plaster impression; also made some oral remarks on the subject. He observed, that he generally used for the impressions a batter composed of equal parts of plaster and spar, sometimes changing the proportions to plaster one part, and spar two parts; take the impression as usual. Uses a perforated impression cup. Place the impression in flask No. 1, of his series, filling up the flask around it with the plaster and spar; then place on the body of the flask; dry it on the fire, then pour in the metal—he prefers zinc; then turn the flask; remove the plaster, and pour in the lead; then you have the model and counter model. By this method you obtain the most perfect model; a slight contraction of metal is advantageous, thus the use of moulding sand is avoided; absolute dryness of the impression is not necessary, yet the dryer the better. This batter is better than anything else for taking impressions for partial sets. The natural teeth draw well from it. It has more elasticity than plaster alone.

Dr. FRANKLIN first takes impressions in wax, trims out of uniform thickness, about a line in depth, all over the impression. The advantages of this method are, that many of the defects attendant upon the ordinary method are obviated, such as perforations or bubbles; there will be far less plaster in the mouth, and less liability of it running into the throat. There will be less expansion in setting and drying than if a larger amount of plaster was used.

A plaster model will not change, he thinks, under a pressure of steam of 600°

Dr. BURRAS procures an electrotype from the plaster im-

pression. Having a correct impression, cut it down to the line to which the edge of the plate must come; cut out a chamber; varnish the model over, except that part where the plate is to be, that part blacken with plumbago. Electrotypes the *impression*, in this electrotypes pour britannia, and thus make the model.

Dr. WESTCOTT remarked that we sometimes think we have made an invention when we have not; thinks that Dr. Burras' plan is one of the most beautiful things in the world, the only objection is that too much time is consumed; the more expedition we can attain the better, this is a fast age, slow things will not answer.

Dr. W. B. ROBERTS.—Electrotyping is not a new invention, if Dr. Burras has been using this process, does he use it all the time? Thinks it is not good; the deposit is soft as lead, and will batter down. Why have they not published it before? Is it not just a fancy operation, presented for effect?

Dr. WESTCOTT.—The copper is not soft, it is hard enough for practical purposes, the copper faced type is an evidence of this.

Dr. BURRAS admits that the process is somewhat tedious, but then maintains that the advantage to be gained is more valuable than the time employed in the process.

Dr. W. B. ROBERTS.—The time required for electrotyping is greater than most people suppose; it is an intricate process, and one that but few can or will be familiar with; the deposit may be made with various degrees of density.

Dr. SUTTON thinks Dr. Clark's method a very good one, and will supercede the electrotyping process; has used the same principle as Dr. Clark for some time; used plaster and spar for impressions nine years ago; dried very perfectly. Drills holes into the impressions from the underside, almost through the plaster, so that the vapor may freely escape; uses pure zinc for models, and lead for counter models; finds nothing better upon the whole.

Dr. WETHERBEE—the plan here presented by Dr. Clark is in every respect feasible; the contraction does not amount to anything; thinks it much better than those more complicated methods.

Dr. ATKINSON remarked that the profession has been in the habit of waiting too long after extracting the teeth; his method is, after extracting the teeth and stopping the hemorrhage, to trim the gums and process; constructs a temporary set and inserts at once; trim slightly in hard mouths and extensively in soft ones; trim as near the supposed permanent form of the gum as possible. For trimming the gum and process uses the scissors and bone forceps.

W. B. ROBERTS—we often suppose we have a new idea, but find out that some one has preceded us; he suggested the following, knows it to be good. When three, four, or five teeth remain, take the impression; strike up plate, fit well, cut out round the teeth, articulate and arrange the teeth, same as for a partial set; cut off the plaster teeth and fit the artificial teeth; (the impression is taken before extracting.) Does not adopt Atkinson's method, although a good one, as it will sometimes fail; the rule is to give as little pain as possible; had some experience, therefore can sympathize. If you can take impressions and fit plate same day the teeth are extracted, it is all the better; the plate protects the parts, and prevents pain during mastication, if you run the plate over the sore places; the absorption does not take place; cut the plate out in that part, let the teeth fit over the sockets, depending on the palatine arch for support. There is no rule to tell when absorption is complete. Some will take six months, some six years.

Dr. WETHERBEE thinks this discipline of great importance to the profession. Thinks great mischief occurs partly from the patient wanting the artificial teeth immediately. Three fourths, of his own cases, he is satisfied are put in too soon. Often where there are protuberances, takes a cutting forcep, clips off the prominent parts of the process, and with a pair

of scissors clips off the fragments of gum. Adopting this *modus operandi*, secures, in young patients, what cannot be by other means. The mode is to add springs to the plate; in this way the same plate is worn until absorption is complete, with equal pressure—no toppling to the one side or to the other. Two years ago made similar remarks—cut the cast much more than the mouth.

Adjourned to meet at 9 o'clock to morrow morning.

SECOND DAY—9 A. M.

The Convention met according to adjournment.

The minutes were read and approved.

Same subject continued.

Dr. JOHN ALLEN's practice is to extract the teeth, then insert the artificial denture, within a week or two; does not trim the gum or process, but crumbles off the sharp points of the process. The absorption goes on as well under the plate, as without it; usually trims down the plate at the sharp points. Uses continuous gum invariably; does not find it necessary to make a second set. Various reasons why the set should be put in immediately after extraction, the patient the more readily accommodates himself to them, than when left too long.

Dr. WHITNEY extracts with great care, but never cuts down the process, or gum; endeavors to get the substitutes in the same day of extraction, the parts are more readily accustomed to them; objects to claiming permanency for the teeth substituted; gives no such promise to the patient. As long as they can be worn with comfort it is well. Suggests that we forget the name *permanency*.

Dr. SEARL thought rather too much time was being consumed on this subject, and moved that we now proceed to the next subject.

After some discussion the question was withdrawn.

Dr. COVELL objects to the use of vulcanite base because of

its offensive odor; also maintains that the sulphur will be injurious to many persons, as is well known. The rubber will absorb the saliva more than porcelain, and thus become offensive. His method of inserting artificial teeth is different from that of many others; he does not use chambers; avoids vacuums in *all* cases if possible; thinks it objectionable; his plates set better than the plates of those who use vacuums. He would not wear a plate as Dr. Wetherbee inserts them, and would not ask his patients to wear them thinks they would not endure it.

Dr. HURD—we have different ways of expressing ourselves—do not think that the sulphur in the vulcanite base will injure any one, there certainly is not enough sulphur for this. Each one obtains his results from his own experience and circumstances. In inserting artificial dentures, there is great diversity of results with different kinds of patients. The dentist who does his duty to his patients will find that he has more to contend with than any other profession. In preparing the mouth, extract the teeth as carefully as possible without lacerating the gums; disturb the parts as little as possible.

Dr. GOLDEN thinks that absorption will take place where the greatest pressure is made. Thinks that sulphur in the rubber work will not injure any one.

Dr. WETHERBEE.—Dr. Allen's method is next best to his own. In Dr. A's plan the patient cannot wear the temporary teeth as long as in his own method. It is said there is no such thing as a permanent set of teeth, this he denies; has inserted sets of teeth ten years ago, that are as good as when they were put in.

Dr. ASAY—what does Dr. Wetherbee mean by temporary teeth?

Dr. FRANKLIN—we should not attack the modes and plans of others, but state those of our own.

Dr. ASAY—what do we understand by a temporary set of teeth? When a patient is presented, he considers all the

circumstances, the health and age of the patient; extracts the teeth, and if a patient desires it, inserts a set of teeth, calls it a permanent set of teeth, and if it has to be remodeled charges for it.

Dr. FRANKLIN has spoken more in favor of other kinds of work, than of the vulcanite; if he was in full practice should use all kinds of work; chooses to refer to the principles as well as the manipulations. The chemist cannot find a trace of sulphur in vulcanized rubber. Rubber base will not absorb saliva more than any other material employed. The material requires to be properly and carefully manipulated, then it can be properly and carefully finished, and is permanent enough for good work.

Dr. ROBERTS will give a few facts in regard to mounting teeth; have used all the kinds of work employed; used vulcanite a year before Dr. Franklin did so. It is said that rubber has some advantages that other modes have not, for instance, that it is easily made and fits more perfectly than anything else, and that it is valuable for permanent work. The rubber is prepared, with rubber, sulphur and oxyd of mercury; thinks this is objectionable in regard to the material. The continuous gum work is easier mended than vulcanite; it, is *easily* mended—the rubber work is difficult to mend because it changes shape and changes color.

Dr. TAFT remarked that all styles of work were valuable; each one has its merits and demerits, one is better adapted for a certain case than anything else, and professional wisdom enables the dentist to select that mode which is best in any given case. He confined his remarks chiefly to continuous gum work, and to one special application of that kind of work, viz: the construction of temporary sets of teeth. The plan of procedure is as follows: extract the teeth; if the gums are rough trim them with the knife and scissors, if there are sharp points of process cut these off also; then take the impression at once or within a few days; prepare the casts in the ordinary manner, and form a plate from

thin plate No. 30 to 34 Stubb's guage, let the plate extend a little outside of the middle of the ridge; then attach continuous gum teeth properly selected, as usual; make the antagonism as perfect with the opposite teeth as possible. For putting on the body, set the piece on the plaster model, then put on the body round the necks of the teeth, trimming the margin neatly, and packing it on to the inequalities of the model representing the gum from which the teeth were extracted, the body thus fits this perfectly—care should be exercised to give just the natural fulness. The piece is then biscuited, and tried on the cast, or into the mouth if necessary; in putting on the second body, any little deficiencies should be remedied. When the piece is finished it fits perfectly the inequalities of the ridge, and no one not acquainted with the fact would detect them as artificial teeth. The gum will, after a time, absorb away and leave a space above the border of the piece all round; when this is accomplished, so as to interfere with the utility or appearance of the piece, then an accurate impression should be obtained, and a model from this; this model should consist of equal parts of plaster and spar. Place the denture on this model; now build a body to compensate for the absorption of the gum and process, attaching it to the plate and body and adapting perfectly to the model; then remove it if desirable; try it in the mouth; then put on the second body and gum, and finish. The over-lapping portion should extend sufficiently far up that the edge will not be exposed when the mouth is open in speaking. There is, of course, no plate beneath this projecting portion, but if properly manipulated it is sufficiently strong. There are several advantages attending this method. The patient has useful teeth immediately after losing the natural ones; does not lose the use of teeth; it effectually conceals the presence of artificial substitutes. The form of the mouth and face is far more perfectly retained, during the absorption, than if teeth were not worn; the muscles are not subjected to the same amount of contraction. Others might be named, but let these suffice.

Some of these points may be attained in the use of other styles of work, but by no other mode can they all be obtained.

The subject of Mechanical Dentistry is a large and interesting field for discussion.

On motion—

Resolved, That the discussions of the subject close at 12 M. to-day.

Dr. ATKINSON presented a model from Dr. Palmer, of Warren, Ohio, exhibiting the method of carving teeth in blocks or single teeth, on a model. It consists of carving the whole in one, two or three pieces, and then cutting them into as many pieces as desirable, extra amount of grinding and fitting is thus avoided.

Dr. CLARK referred to a difficulty that he had met with in inserting a set of teeth, the patient could not draw up the plate; fitted the plate as well as possible, made a Cleveland chamber but it would not work, then made another plate, with the common chamber, and swaged the plate; just back of the chamber, within a line of its border made a hole; the patient could then draw the plate up firmly; closed up this hole, and made three others through the plate, just back of the chamber. Then the patient could draw the plate firmly in place and it has been worn several years, with the very best results, giving entire satisfaction. Cutting the plate away would answer the same purpose, he supposed.

Dr. COLBURN—has used nothing but continuous work for eight years; he thinks nothing else is so good. There are less accidents with it than with gold work, and it is easier mended. Thinks it should supercode everything else.

Dr. MERRIMAN—formerly extended the plate back as far as possible, now does not do so. Makes the plate short.

Dr. GILDEA uses platina and arsenic for a solder for continuous gum work; there have been objections made to it. Fit up for soldering as usual; take small pieces of solder

and put on the joints, put silax on round the point to be soldered, to prevent the solder from spreading over the plate.

Dr. SEARL—is in favor of gold work with single or block teeth, thinks that new plans should be cautiously employed; has not employed other styles of work to any considerable extent, but always had trouble when he attempted them.

Dr. ALLEN—used the platinum and arsenic solder formerly, but abandoned it because it made the plate brittle, and flowed over it too much; now uses a solder of platinum and gold, with a slight addition of arsenic.

Dr. CLARK (of Poughkeepsie)—has not used temporary sets of teeth for some time. After the teeth have been removed for two months, put up the temporary teeth, take a *thin* platinum plate and put it up so that the plate will conform to the mouth. Generally prefer gold for temporary work, do not think that rubber work is good for partial sets.

Dr. CLAY—after taking out the teeth, trims the gums, and on the cast fill up the sockets; generally covers the gums in front with the plate; puts in permanent teeth in a year after the teeth are removed; used plate No. 38 permanent work; puts a wire on the ridge from heel to heel of the plate; solders only at each end to the heels of the plate; all the intervening portion of the wire is not attached to the plate. Use the single pin teeth, bend the pins to the wire and solder them to it instead of the plate; this is done that the position of the teeth may be changed, not being attached to the plate; perforate the plate with many small holes, that the body may run through for attachment. Makes light work; uses but one plate.

Dr. WESCOTT—he agrees that the sooner a plate is inserted the better; this produces a rough ridge, however, prefers to keep the ridge smooth. After the plate has become loose, perforate the plate and line on the palatine side with Hill's Stopping; keep this up till the temporary plate is abandoned; may regulate the roughness by making pressure upon the prominent points; pressure will produce absorption. The

sockets fill up with bone material; commonly dislikes those deep jaws or prominent ridges.

Dr. ROGERS is in favor of temporary dentures.

Second Subject—NUTRITION OF DENTINE.

Dr. TAFT—in regard to the nutrition of dentine, remarked, that he scarcely knew what course to pursue; he should be pleased to have the committee tell us what was intended by the language in which this subject is couched; does it have reference to the sustenance and nourishment of the teeth after development, or does it include also the development of the teeth; he would confine his remarks to the first particular, viz: nutrition of the teeth after development. The fluid, that circulates through dentine, though it does not contain all the elements of the blood, that nourishes other tissues, yet it does contain enough and is just adapted to the tissue which it is intended to nourish. The circulation of this fluid through the dentine, is not through distinct and definite vessels, as in other tissues, but is a kind of imbibition, influenced and controlled by vitality: it is also vitalized. This tooth blood is supplied both from the internal and external connection, perhaps more from the external than the internal. The relative amount of vitality received by a tooth, from its internal and external connection, is a point that is not very definitely settled as yet. The teeth in a good constitution, and under favorable circumstances, assume a condition corresponding to that of the general system; and with a deteriorated state of the latter, the teeth suffer, so that they will not withstand the influence of injurious agents, as they would otherwise do. The teeth are nourished in the same manner as cartilaginous tissues are; the red globules do not pass into these, neither do they possess definite circulatory vessels. This subject is one that has received but little consideration, at the hands of our profession, though it is a very important one.

Dr. ATKINSON remarks that we have first plasma, then

cells, then tissues, organs and systems. The enamel represents the mineral kingdom; the dentine, the vegetable; the pulp, the animal.

What the circulation is, is indicated by the structure, where there is ossification of dentine it approached the character of the enamel.

Dr. DODGE made some remarks upon crystallography; thinks the enamel is not true crystalization. The circulation is analagous to that of other parts, it is a kind of permeation, both from the pulp and periosteum.

Dr. WESCOTT was formerly as fond of theories as any one, but has become more practical; the enamel is true crystal in its structure, the dentine has a circulation but not vitality sufficient to resist chemical action; vitality is the great resistant of chemical action; there is not enough vitality to resist chemical action to any appreciable extent.

Dr. ATKINSON.—every tooth has its follicle when it cuts the gum; this is nourished, and that nourishment is not cut off while the vitality of the tooth remains.

Adjourned to meet at 4 o'clock, P. M.

AFTERNOON SESSION.

Convention met according to adjournment. Same subject.

Dr. J. ALLEN gave the constituents of the teeth; the elements of dentine should be furnished in the food; in some kinds of food it is removed in the preparation—the preparation of wheat flour is an instance; the hull of the wheat should be left, for this contains the bone material.

Dr. TAFT remarked that, as the discussion had involved the nutrition of the growing teeth, as well as those already developed, he would make a suggestion or two. This is a great subject—it is in reality the great point in this subject; it is one in which is involved not only well-being, but life itself. Probably one-fourth of all the children that die under two years of age, die from difficult dentition, or disease

having an immediate connection therewith. This subject of difficult dentition and nutrition of the growing teeth, is one much more easily influenced, modified and controled, than most persons suppose. What is required is a good assimilating, appropriating and upbuilding apparatus; and the proper material to be employed. Every one should pursue that course best calculated to bring about these conditions, and then supply the proper materials. Some experiments were detailed, illustrating the importance of this subject.

Dr. SEARL—how are we to reach patients in this respect?

Dr. ALLEN—by giving the information in properly written books and circulars, diffuse the light.

Dr. BUCKINGHAM.—we lose sight of the vital forces—this must be regarded. The teeth are nourished as any other part is, notwithstanding the red globules do not pass through the dentine; the red globules do not nourish any thing. The enamel is organic and vitalized, and more resistant to chemical agents than the dentine. The enamel is not crystalline in its substance—it is molicular deposition. There is circulation in the dentine.

Dr. WESTCOTT—any structure containing not more than one-half per cent, of animal matter, can have but minute resistance to chemical affinity. Is it true, as just expressed, whether under the vital or vascular system, that if the body is well the teeth are well, or if the body is sick the teeth are sick? Can not admit any such doctrine, having seen very sick teeth with a well body.

If patients believe that a *live* tooth is capable of resistance, like the hand or any other part of the body, they would soon learn to let them go and take care of themselves.

Dr. STACKPOLE is highly gratified by remarks just made. Take a theory of any kind, find it may be beautiful, but when applied practically it often fails.

It is difficult to apply these theories practically, in the use of phosphate, etc., fed to the mother. Physicians, after

treating a patient, often think they have cured them; are they sure of this, or did nature do the work? would they not have got well without any treatment? Believe as others have remarked, that a dead tooth in a dish is very different from a live tooth in the mouth; find often different characteristics of the teeth in different members of the same family—can we say it is hereditary? Sometimes must feel that we may be mistaken; the theory may be good, but must accord with common usage.

Dr. G. H. PERINE moved that the convention take some action in regard to assisting in raising money to erect a monument to the memory of John Hunter, sustaining the motion by remarks highly creditable. (The *Resolution* to be found in the minutes.—REP.)

Dr. GIDNEY thinks the object a laudable one. John Hunter was an ornament to the medical and dental profession, and it is highly commendable to make a contribution of this kind.

Dr. ATKINSON was against any thing of the kind—was opposed to hero-worship.

On motion of Dr. Roberts, resolved, that the motion be laid on the table.

The hour of fixing the place of the next meeting having arrived, after balloting on several locations, New Haven, Connecticut, was selected.

The convention then adjourned to meet to-morrow morning at 9 o'clock.

THIRD DAY, 9 A. M.

The convention met according to adjournment. The President being indisposed, the meeting was called to order by Dr. Rogers.

The third subject, irregularities of the teeth, was taken up.

Dr. TAFT—this is an important subject—one becoming more and more so as its treatment is more general in the

profession. Irregularities are of different kinds: sometimes the root occupies the proper place in the alveolus, but the tooth is turned upon its axis, and does not present the proper surface to view upon the mouth being opened. Again, the teeth in other cases have a wrong inclination, the roots being in about the right place, but occupying a wrong inclination; thus throwing the point of the tooth out of its proper place. Again, the root of the tooth may be entirely out of its proper place in the alveolus, thus throwing the tooth wholly out of its position in the arch. This latter presents greater difficulties in the way of its correction than either of the others. There are various causes for irregularity, some of which we can in some degree comprehend. There are some, doubtless, that as yet lie beyond our ken. He then simply enumerated some of the causes, among which are a tardy development of the teeth; the slow removal of the temporary teeth; a crowded condition of the permanent with the temporary teeth; a crowded state of the permanent teeth, these being too large, all to be accommodated in the space existing for them; and a malposition of the germs in the sockets, the cause of which is some constitutional peculiarity, not well understood.

The treatment is too large a field for much discussion here; the treatment will be governed by the nature of the irregularity. If the permanent teeth are crowded with the temporary teeth, the latter sometimes require to be extracted—great caution should be exercised in this particular. When the permanent teeth are crowded, either the circle in which they stand should be expanded, or one or more of the teeth should be extracted. Any obstruction in the way of a correction should be removed. Various appliances are used in the correction of irregularities. The object is to apply force in such a manner as to bring the tooth or teeth to the proper place. Of these fixtures and their application he hoped to hear from others.

Dr. SEARL don't rise to give but to receive information.

Case: Young lady twenty years old, left eye tooth half erupted; the laterals were removed by one calling himself a dentist—supposing they were the deciduous teeth. The arch is so small as to have room to accommodate but half the teeth; left eye tooth short and inclining inward, so that direct pressure can not be had.

Fitted a plate to upper jaw covering the teeth; applied clasps so as to draw it firmly to its place; the left cuspid is the one to be operated upon; patient is in a hurry, and will bear any pain he would inflict; used a spring attached to a plate, and screw to tighten as rapidly as possible.

Dr. GOLDEY—generally uses a bar of silver, which is held in the hand, and bite upon it; in one day the tooth is in its place, in three days the most difficult cases are overcome.

Dr. ALLEN has in many cases ceased to use metallic plates, but instead of it uses hard rubber, which is more easily adapted, and can be filed down as the change progresses; this is the most rapid and easy method.

Dr. TALBERT—in order to secure the plate for regulating without injury to the teeth, fit the plate to the lower jaw, attaching inclined planes, to strike the teeth requiring regulation.

Dr. EVANS—strikes a plate, with screws attached, to bear directly against the teeth to be pressed out.

Dr. W. B. ROBERTS—treatment has been pretty well handled, but no rule or time can be given, it must be left entirely to the progress of the operation. Nature made everything perfect; unless its laws have been transgressed, all teeth would be properly arranged and in perfect order, hinted at what might be the cause of irregularity. Germans, Irish and English generally have good teeth. Americans have more cases of irregularity than all others. German jaws are one-fourth wider than Americans. Irish are one-fourth longer, and so with all pure bloods. We are a mixed race, originating from different nations. You may have the narrow jaw

of the Irish, and the large, broad teeth of the German, and thus they can not be otherwise than irregular.

Dr. PERINE—holds in hand a cast of a case for treatment of irregularity, presented for the consideration of the members.

Dr. F. Y. CLARK—had a case where the incisors pointed directly outward; the cuspids, bicuspid and molars followed, and at last stood the size of one tooth ahead of their proper position; protruding externally, what should be done?

Dr. ALLEN—has seen a great many cases of the kind named by Dr. Clark, and finds they are produced by sucking the thumb, and therefore calls them thumb suckers.

Dr. COVELL—inquires in regard to causes of irregularity, whether it does not run in families; has under treatment one family, first the daughter, then two sons, then another daughter, both parents with good regular teeth.

Another family, first two daughters, next son, all taking on the same form of irregularity. It not unfrequently is produced by too early extraction of the deciduous teeth, permitting the arch to contract, or rather is not properly expanded. It is not only necessary to place teeth where they are wanted, but to hold them there until a new deposit of process is made to fill the space from which it has been removed; if you proceed rapidly, you must augment pain, if slowly, you must take time.

Dr. W. B. ROBERTS remarked in regard to irregularity running in families; thinks it is a conceded point, and recited cases to illustrate.

Dr. ASAY took exception to the remarks of Dr. Roberts in regard to pure blood, etc. Acknowledges that he is at a loss to know the causes of irregularity, except in a few cases, as related by Dr. Allen, from sucking the thumb. In regard to correcting, strike up a band around the inside of the teeth of the opposite jaw from the one to be regulated, soldering on little inclined planes to strike the teeth to be forced out, and if there is any difficulty about retaining the plate, the me-

chanical correction will suggest itself. Under all circumstances, insist that the appliance, whatever it may be, shall be kept constantly in place, never permitting it to be removed, except as he himself removes it. Otherwise, the work is as rapidly undone as it is done.

Dr. SEARL repeated his former remarks, stating again that he in two or three days gets the tooth outside of the lower, after which it takes care of itself.

Dr. W. B. ROBERTS wished to say that he did not intend that the rule named was universal, but a general cause of irregularity.

Dr. J. A. PERKINS takes the ground that it is none of our business as to the *causes* of irregularity; we must take the cases as they come, and correct them.

Dr. COVELL spent some time in the Sandwich Islands in close observation, and found not a single case of irregularity, except where they had intermarried with Americans, store-keepers who lived on fine wheat bread, sweetmeats, etc.; also in California, also in Central America, all with perfectly formed arches, and no irregularity, so far as they came under his observation.

Dr. F. Y. CLARK, in explaining the manner of regulating the case above named, first have all the hair shaved from the head, make a metal cap to fit the back of the head, lined with a cushion, fasten to the cap an arch to reach to the condyle of the lower jaw, another to come to nearly the angle of the eye on each side, then taking an impression of the jaw, attached a band to the arms of the cap with springs to keep a constant pressure. After several days removed a bicuspid on each side, and in six weeks had the position and articulation as perfect as any he ever saw.

Dr. W. H. MORGAN has had a number of cases of a similar character, which were corrected by fitting caps to the molar teeth, and passing a spiral spring around over the labial surface of the front teeth; the effect has been accomplished in two or three weeks, but the appliances had to be continued

till the bony structure was deposited, to hold them in place ; in one case they were brought in three-fourths of an inch, in difficult cases it was necessary to remove a bicuspid on each side.

Dr. COVELL, in his experience in the Sandwich Islands, California and Central America, found that none of the natives had decayed teeth, except those who married whites, or Americans who lived on wheat flour ;—he apprehends the cause to be the absence of the phosphate of lime in wheat flour. The Sandwich Islanders live mostly on an article called poar, which contains a large proportion of phosphate of lime ; they eat fish raw. Central Americans live on corn cake, made of coarsely ground corn with water.

Dr. DODGE thinks it a matter of great importance to consider causes, unless we are to be esteemed only as tooth carpenters ; with all due deference to his majesty, Mr. “ Phosphate of Lime,” there are many other things to be considered in regard to the rude and savage. The quality and chemical constituents of the food is not the only thing ; the habits of luxury, the long sleeps, etc. must be taken into consideration. As our worthy President remarked, if the hand is sick, the tooth is sick, and the whole body is sick. The teeth in their internal organization, do sympathize with the condition of the stomach, becoming more highly excited and susceptible of perceiving the touch of external substances ; a nervous susceptibility is generated by diseases of the stomach and other parts of the organism ; if this is so, is it not also fair to presume that it lessens the ability to resist external agents ? Sometimes you find a touch upon the tooth at the margin of the gum, to produce pain, at certain times, without any signs of decay. Why is it that a female, who, having but slight specks of decay, becoming pregnant, loses all her teeth during a single period of gestation, and especially if she suffers much in her pregnancy ?

The proper nutrition is drawn away from its proper course, to give nourishment to the fœtus.

Dr. ROGERS some time ago commenced a series of experiments of filling teeth with materials other than gold, then finishing with gold; soon found that it would not do to use any other than one metal; his theory was, that if the metals were kept free from moisture, there could be no galvanic action, but found the facts to be otherwise, in the destruction of both teeth and material. Then tried gutta percha, filling cavities nearly full, then finishing off with gold, and can now, after several years' experimenting, see no external differences between these and his best gold filling—to be sure, has taken out some filling, and found the inside white, or whiter than is usual in all gold. Another practice has been to cleanse out a large cavity, then take a piece of gold plate, bending the corners so as to form feet. Place it in the cavity, to form a stool, leaving all empty beneath, and filling with gold on this stool; in removing filling, found the feet of the stool imbedded in new dentine. It is a matter of great importance if we can leave a vacuum, with the mouth hermetically sealed, and secure the deposit of new dentine, we will have gained a great deal. Has many other cases, which will be opened, examined and reported in due time.

Dr. W. H. MORGAN—glad to hear the above expression of experience. In June, 1859, had a lady patient with five teeth in which the nerves were exposed, three months advanced in pregnancy, and quite delicate; washed carefully, and applied creosote; capped and filled with Hill's Stopping. About a year after, the lady called again to have the fillings removed and others put in; in three of the teeth the nerves were dead, in the other two a deposit of bone had been thrown out, covering the nerve with a solid cap of bone. Thinks the cases in which the deposit of bone was made had the nerves wounded so as to produce bleeding, and thinks it essential to the deposit of dentine, that the nerve should be wounded.

Dr. PRIEST has used, in a great many cases, gutta percha and Hill's stopping, and wishes to call out the views of the convention in regard to it.

Dr. W. B. ROBERTS wishes to draw attention to the fact that the greatest amount of decay occurs between the ages of fourteen and twenty. It has been remarked by old practitioners, that to preserve teeth in young patients tin foil is preferred; what he desires to ascertain is, what is the best thing to be used at this age? Has always been a strong advocate of gold and gold only, but has observed many fillings at this age where tin foil had perfectly preserved the teeth, although the filling externally was quite black; on the other hand, some of the finest gold fillings remained perfectly bright, but around the margin the tooth will show a dark ring of decay.

Dr. PRIEST remarked that we should understand that using gutta percha, or other non-conductor, was not done to save gold.

Dr. ROGERS rose to a question of privilege to announce the death of Dr. A. Blaksley, eulogizing his character as a man, a gentleman, and an operator, and his devotion to his profession, and advancement of his profession and this convention, never seeming to grow weary as he advanced in age. With other remarks suited to the occasion, a series of resolutions were offered, adopted, and placed upon the minutes.

Dr. BURRAS followed in some eloquent and appropriate remarks—historic, biographical and eulogistic.

Dr. PERINE, as a pupil of Dr. B., has struggled to suppress his feelings—can do so no longer. He was an honor to the profession—a star of the first magnitude, who needs no monument—his name will go down to posterity with love and admiration.

Dr. ALLPORT could not have been induced to address the chair on any other subject, on this he could not resist. None knew him but to love him; he was devoted to his profession—gentle as a woman—kind as man could be. We all knew him; none knew him but to love him; always ready to

assist the young and worthy practitioner up the rugged road of science ; none more firmly opposed quackery and empyrism in every form.

SIXTH SUBJECT—DISEASED DENTINE.

Dr. DODGE having used non-conductors, and mentioning the fact to a gentleman of very high standing, was informed that he found the gutta percha to contract, presented this fact merely for consideration.

Dr. COVELL suggested dissolving and purifying gutta percha, by dissolving in chloroform, as it can thus be made perfectly pure, more contractile, and of any desired thickness.

Dr. ASAY's experience with gutta percha fillings is not favorable, frequently finding strangulation of the nerve, and no very pleasant odor ; found that a quill split open and placed over the exposed nerve, or sensitive dentine, and filling with gold, to result in the happiest effects.

Dr. B. W. FRANKLIN claims that the cause of diseased or sensitive dentine is acid ; the remedy is alkali. To prove this apply litmus paper. Take the broad ground, that God designed these organs to remain as long as there is use for them, they never could decay by natural causes. We find, under the free margin of the gum, great sensitiveness, and if we apply litmus, we find acid, and if we apply alkali, we have a removal of the sensitiveness, illustrating by a number of cases ; as patients with dyspepsia, with acid secretions ; teeth badly decayed, filled twenty years ago, and kept in perfect condition by the daily use of alkali. Usually our whole system of living is false, our system of diet is calculated to destroy instead of promoting health.

Dr. BURRAS—The difference of temperature to which the teeth are subjected is a cause of sensitive dentine, especially in connection with decomposing animal matter, this produces not only sensitiveness, but decay ; defects of the teeth

are hereditary. Gave cases of hereditary transmission—his *own case*.

Dr. COVELL—The acid theory was a favorite one of his, but when he was at the Sandwich Islands he found other things produced decay besides acids.

Dr. TAFT read a paper from Dr. Foote. (It is found in this number of the Register.)

Dr. MORGAN endorses the sentiment of the paper; thinks that many of the agents used for the treatment of the sensitive dentine are highly injurious, as they destroy the tissue.

Dr. PRIEST—it does seem we do not go back far enough. He thinks that the chief cause of decay is a deficiency of the organization, more than anything else.

Dr. ATINSON thinks that the subject is not well understood. The life force has much to do with the sensitiveness of the teeth, also with the decay. The way to procure good teeth, is to have the *originals good*. If we knew just what caused the disintegration of dentine, we might understand the matter.

On motion, *Resolved*, That the final adjournment be tomorrow, at 1 o'clock, P. M.

Adjourned till 4 o'clock, P. M.

4 O'CLOCK, P. M.

The Convention met according to adjournment.

Minutes read and approved.

Sixth Subject—EXPOSED PULP.

Dr. TAFT considers this a subject that claims the closest consideration of the dentist, for it is only by the strictest conformity to the indications that success can be obtained. There are many circumstances, that will modify the treatment in any given case, for instance, the constitution of the patient; the peculiarities of the constitution; the length of time the nerve has been exposed; the size of the orifice at which it is

exposed; and the character of the agents that have been brought in contact with it subsequent to the exposure. With a good constitution, and recent exposure, and by a small orifice, do not hesitate in any case to treat and fill with a view to the preservation of the pulp. It is difficult to give any rule of procedure; almost every case will require procedure peculiar to and adapted for it. In general terms, the object is to remove all irritating agents, and render the pulp healthy, the latter to be done by topical or constitutional treatment, singly or in connection. Nature alone will often accomplish the work, when the opportunity is offered her. When the restoration of the pulp is accomplished, then imitate nature's arrangement for its future residence as much as possible; make the chamber of the natural form and size, and place in contact with the nerve, material that will not irritate it, also a non-conductor, then fill the decayed cavity firmly. If a pulp is wounded, it is susceptible of restoration and preservation.

Dr. WESTCOTT—it is with hesitancy and embarrassment that I attempt to speak upon this subject; have not had the success of others; where he exposes the pulp even slightly, it causes an electric shock to him; thinks a living tooth better than a dead one, because the latter is more liable to take on periostitis. What is the prospect, where a pulp is exposed, even in a good case? it is a loss of the nerve. Where we have exposed pulps, and we excavate, we cut away a portion of the cavity that contained the pulp. In no such case can the containing cavity be restored to its natural form, and so the pulp can not be in its natural *condition*. His method of destroying pulps is surgical cutting out with the probe or proper instrument; have not had a single case of abscess by this treatment. Again, sometimes destroys the pulp with arsenic and creosote; his method is, after cleansing the cavity and exposing the pulp, to place on the exposed point a small roll of cotton moistened with creosote, and with the smallest grain of arsenic; then fill the cavity with a tempo-

rary filling of tin; this may remain from two or three days to six months,—if it remains a year, it will do no harm. The pulp will not be decomposed while it is saturated with arsenic. There is no pain from the application.

Dr. DWINELL—asks if arsenic does not pass through the dentine, and thus produce a diseased condition of the periosteum.

Dr. WESTCOTT—thinks that when trouble occurs it is in consequence of the imperfect method of applying it, used but the smallest portion of arsenic. In surgical treatment, abscess never occurs; with arsenic the success is not so good. Fills teeth to which an abscess is attached.

Dr. ATKINSON—thinks an abscess will not occur when the pulp is removed by surgical treatment. When any part becomes unfit for use, the surgeon should cut it clean away, and remove the disintegrated portion. Can show cases of deposition of secondary dentine; there are instances of it in those cases where the teeth are worn down—if there is strangulation of the pulp, it will die. The bone-making principle is periostium, the world over.

Dr. DWINELL—thinks by classifying and selecting the cases, the pulp may be preserved. Where a healthy pulp is exposed in favorable cases, if it is wounded, treat it with camphor, and fill with success. Secondary dentine is formed; it begins with the formation of the tooth, and continues till the cavity is filled with dentine.

Destroy the pulp with creosote, clean out the cavity, and drop on a little creosote, then remove the portion cauterized, continue to apply and operate till all the pulp is removed; this is done without pain, and in a short time; thinks it better to leave even a partially decomposed portion of bone on an exposed pulp; have filled teeth with cement, that were soft and semi-gelatinous.

Dr. WETHERBEE—observation teaches the impracticability of saving dental pulps; has attempted it, but failed; where a tooth is filled well and air tight, there will be hydraulic pres-

sure. Destroy the pulp by surgical treatment always when it can be done, and in other cases, with the smallest amount of arsenic ; do not use enough to affect the periosteum. Gave a case, in which arsenic was the cause of abscess ; cleaned out the tooth and fang, and filled, and it recovered perfect health ; the deposit of secondary dentine is a very slow process—ten years will sometimes be required ; have never seen a case of secondary dentine formed to protect a nerve.

Dr. ROGERS—it is the general rule that the nerve will die, when it is treated as described, and it is wrong to practice on exceptional cases ; the cases are rare in which success is the ultimate result. Do not think that it is safe to leave arsenic in a cavity, as described by Dr. Westcott, though Dr. W. may succeed ; it is a dangerous practice ; the parts will take up the arsenic. In his experience, has never met with any cases of exposed nerve, where the nerve has been saved, often have to rely upon the assertions of the patient ; fill teeth frequently, patient goes away, and we never hear of them again. We take this as a success, when in reality the nerve is dead. A case of this kind came under his observation not long since ; removed the filling, and to his surprise, found no nerve, it was dead and gone, and smelled dreadfully. Would it not have been better to remove the nerve, at first, and filled to the apex of the fang ?

Dr. WESTCOTT—thinks that if the arsenic remained permanently in the cavity, if it is perfectly filled, and the arsenic protected from moisture, no harm will result.

Dr. ROBERTS—in his own case, has had a nerve treated, and it failed ; is satisfied with nerve treatment.

Adjourned till to-morrow morning, at 9 o'clock.

FOURTH DAY--9, A. M.

The Convention met according to adjournment, Dr. Buckingham in the chair.

Dr. F. Y. CLARK—never attempts to fill a tooth which has its nerve exposed, it will die ; destroy the pulp by the ordi-

nary means, viz: the application of arsenic; when there is abscess, syringe creosote through the fang till it appears at the orifice of discharge.

For restoring the color of teeth, use Darby's prophylactic fluid, remove the decay, dig out the cavity, and pack into it a pledget of cotton, moistened with the fluid. This restores the color of the tooth. The fangs and decayed cavities should be perfectly filled, in order to save the color.

Dr. TEFFT—in destroying a pulp, let the arsenic remain in about twenty-four hours, use about the amount of one-half the size of a small pin's head; is decidedly opposed to filling and drilling into the fang to make an outlet, would not cut off a nerve by drilling into the canal.

Dr. COLBURN—excises the pulps by drilling into the canal, and the excised surfaces will heal up, a cicatrix will be formed.

Dr. ATKINSON—thinks that pulps may be excised, and a cicatrix will be formed, and such a tooth will be perfectly safe.

Dr. MORGAN—in good cases, where a nerve is exposed, even if it is wounded, cleanse out the cavity, and fill, and is certain with good results; has often found secondary dentine in cases where a tooth has been filled over exposed pulps; destroys pulp with arsenious acid in the usual manner. Finds it difficult to fill fangs, very seldom finds a perfect fang filling, fills as well as he can; gave a case of a tooth, in which he filled over an exposed nerve six years before, and recently found the pulp effectually protected by secondary dentine.

Dr. DWINELL—gave a case of a front incisor, in which he exposed the pulp, and wounded it; treated it with camphor; covered it with a plate and filled it, and it was living several years after; thinks that a wounded nerve is as susceptible of restoration to health as a cut finger, have filled many cases, and examined them, and found secondary dentine; in young persons the prospect is best; have practised filling such cases for years with the greatest success. Have a theory in regard

to sensitive dentine; the dentine is made up of dental tubuli, the inter tubular membrane or substance becomes irritable, or inflamed, from affection of the nerve.

Restoring the color of teeth; they are discolored by iron from the blood, this being injected into the dentine; the blood is decomposed, the red corpuscles are broken up into many fragments, so that it can be forced into the tubuli; have used solvents for iron; chloride of soda and of zinc; the agents as yet applicable for this purpose are quite limited; hope others will be discovered. The field of chemistry is a broad one, and should furnish other agents.

Dr. ROGERS—feels impelled to reply to the remarks just made; exceptional cases will not do to base a practice upon; thinks nine-tenths of the pulps treated with a view to save their vitality, even by the best operators, fail. The pulp is encased in secondary dentine very stoutly, as is evidenced in the teeth that are worn down; gave cases going to prove his position; a tooth which he filled for a boy, nerve exposed, but filled, afterwards examined the tooth, and it was not sensitive, cut, and cut into the pulp cavity, found the pulp dead and odorous. Is particular in his method of destroying nerves; over the point of exposure place a layer of wax, and perforate it at the point of the exposure; into that perforation put a small grain of arsenic, and cover over with wax, so as to close effectually.

Dr. COVELL—has treated exposed pulps with such results as warrant him in continuing it; thinks if one in eight is saved, that it gives sufficient encouragement to proceed; but his success is better than that.

Dr. ALLEN—shall go home and resume a practice that he had abandoned several years ago, viz: that of filling over exposed nerves. To destroy nerves, uses arsenic as described; let it remain in about eight hours; when he removes the nerve, he knows he will succeed, but does not know that he will succeed when he tries to save an exposed pulp; but shall now go home and try to save the vitality of pulps again.

Dr. DWINELL—presented an answer to Dr. Rogers in a diagram upon the black board, by which he illustrated the fact that the dentine of the crown is dead after the pulp is destroyed.

Dr. PEASE—removes the nerve from a molar tooth ; after removing the pulp, found intense sensitiveness in the canal of one of the fangs, the walls of the canal were exceedingly sensitive ; filled it, and it is yet in the mouth, and serves a valuable purpose ; referred to a case, in which in an inferior molar tooth, the pulp was living after it was cut off at the points of the fang.

Dr. WHITNEY—for destroying nerves, apply arsenic ; take a small roll of cotton rolled very hard, and moisten with creosote, take the smallest amount of arsenic on the cotton, make the cavity perfectly dry, and apply, close *perfectly* ; let it go, even for weeks ; pain does not occur, then cleanse out and fill.

Dr. STACKPOLE—has found sensitiveness of the dentine after the pulp is destroyed. It depends much upon the condition, age, etc. of the patient, what our success shall be ; has often filled teeth with exposed nerves, and removed the fillings, and found the nerve dead.

Let us not take the opinions of others, but investigate for ourselves, with the microscope, and everything that we can bring to our aid.

Dr. PEASE—extracted the teeth of a gentleman for a set ; attempted to destroy a pulp of an incisor, destroyed part of it, the remainder was thrust with a probe, armed with arsenic, the tooth did not become sore, but there was necrosis of a portion of the alveolus and gum.

Dr. TEFFT—uses arsenic, morphine and tannin, removes all substance from the canal, take a grain of the powder, and apply to the nerve, let it remain from twelve to twenty-four hours, then apply tannin and alcohol.

Dr. MERIMAN—have capped exposed nerves, and filled with success.

Dr. ATKINSON read a paper on dental teachings, (which will be published in next number.—REP.)

The ninth order of business, viz: exhibitions of models, etc., was taken up.

Dr. SUTTON presented a case of protrusion of the lower jaw, for the treatment of which he asked the opinion of the members of the Convention. Two or three valuable suggestions were made in regard to it.

Dr. ROBERTS presented corundum wheels made of vulcanized rubber and emery. They are manufactured by E. A. L. Roberts.

Dr. FRANKLIN presented Dr. Asay's method of attaching teeth to gold or silver plates, with vulcanized rubber instead of solder. Quite a spirited discussion sprung up upon the question, as to whether a man shall exhibit to this Convention materials and implements, where there is a secret in its manipulation or preparation.

On motion, *Resolved*, That Dr. Asay be permitted to exhibit his work, provided he give a full description of the process.

On motion of Dr. Rogers, *Resolved*, That the President be authorized to make preparation for the next Convention, or employ some one to do it.

Dr. FRANKLIN—refers to the manner in which a tooth is retained in the socket, referred to a case in which two central incisors which were imported from Paris in alcohol, were inserted into the sockets, to which they became firmly attached. Extracted a second molar, let it remain till he filled the wisdom tooth, and then filled the extracted tooth, and then replaced it in the socket, and it became firmly attached, and is now a good tooth.

Many interesting conversations occurred, to which it is impossible to do justice in a report like this.

The hour of adjournment having arrived, the President made some very impressive remarks, which will certainly not soon be forgotten by those who heard them, after which the Convention adjourned to meet at New Haven, Conn., on the first Tuesday of August, 1861, at 10 o'clock, A. M.

NEW FACTS IN REGARD TO GOLD.

At a recent meeting of the London Chemical Society, an interesting paper was read by Mr. Warrington, one of the members, in which was noticed a peculiar condition of some gold brought from Australia, that had caused considerable embarrassment. A large quantity sent from the Bank of England to the Mint was found to be singularly deficient in ductility, and it was so "rotten" that it could neither be rolled nor subjected to the usual processes of coining. There were about forty thousand ounces of the metal in this condition. A specimen of it was sent to Mr. Warrington, with instructions to endeavor to ascertain the cause of this rottenness, and, if possible, to devise a remedy. He found on analysis that the specimen contained .92 per cent. of silver, two per cent. of tin, and a like proportion of antimony. The presence of the latter metal was supposed to be the cause of the alteration in the usual mechanical character of the gold. and it was no easy matter to extract it mechanically, without loss of precious metal. After several experiments, Mr. W. found that oxide of copper, when melted with the gold, in the proportion of about ten per cent., removed the antimony, which then rose to the surface as a powder, and could be cleared off. When, however, this plan was attempted to be carried into operation on a large scale by the metallurgist at the Mint, it was not found to answer, and Mr. W. was again applied to. The gold had been melted in the usual black lead or plumbago crucibles, the carbon of which had combined with the oxygen, and thus prevented the proper action of the oxide of copper on the antimony. On the substitution, however, of clay crucibles for those of black lead, the process was found to be very efficacious, and the difficulty was removed.

The above is worthy the attention of the profession; this "rotteness" or want of ductility in much of the gold used for manufacturing plate being well known and often complained of.

It is also an established fact that some of our gold, especially that of California, contains a proportion of antimony. If, therefore, antimony is the cause of this deficiency in gold, the above process for obviating the difficulty may be considered most valuable to all manufacturers of plate.

Editorial.

AMERICAN DENTAL CONVENTION.

THIS body met at Saratoga on the 7th of August, and continued its sessions till Friday, the 10th, at one o'clock, P. M. It was conceded by all whom we heard give an expression of opinion, that it was the best meeting of the kind that has ever been held.

There was not much in the way of deep, extensive research; but few essays were read; but there was much elicited in the way of short discussions that was new, interesting and valuable; there were more useful points elicited than at any former meeting. There was a genial freedom of expression, which was refreshing to see. The utmost harmony prevailed, and though there were differences of opinion, they did not engender unpleasant controversy. It would be pleasant here to bring together in brief, some of the valuable ideas they brought forth; but a few samples must suffice; we give a few as they occur to our mind, not that they are better than many others, that we do not give; and first,

Dr. *Clark's* method of procuring metallic model and counter model without the use of sand or plaster, farther than the impression.

Dr. *Rogers'* method of applying arsenic through perforated wax to the pulps of the teeth.

Dr. *Westcott's* methods of applying arsenic, and the principle upon which he does it.

Dr. *Clay's* method of continuous gum work.

Dr. *Allen's* method of inserting temporary work.

Dr. *Roberts'* method of mounting partial sets of teeth.

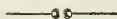
Dr. *Wetherbee's* method of inserting full sets of teeth.

Ideas upon correcting irregularities.

Several new and improved implements and appliances were exhibited, prominent among which were improved vulcanizers, vulcanite emery wheels, etc.

The many attractions of Saratoga operated somewhat against the constant attendance of many of the members; but that is to be charged to the attractions, rather than to the members.

The adjournment was made to New Haven, Ct., where we hope to see our Convention held free from outside influences, as this was one strong argument used by the friends of that location, while those opposed to that location contended that the members would not go without some outside attraction. Well, we will see. T.



AMERICAN DENTAL ASSOCIATION.

THE delegates from the various existing dental associations met in Washington City July 31st, 1860, for the purpose of forming a national association. The local associations were pretty generally and fully represented. They met and operated together in effecting the organization, with the utmost harmony. Not very much was done in the way of discussing practical points, from the fact that the time was mostly occupied in effecting the organization. This was done deliberately and with great care.

There were three or four papers read, which will be published. We do not suppose it will be the object of this association to enter very largely into the oral or extemporaneous discussion of subjects, but through the appropriate committees endeavor to elicit thoroughly digested and well written essays upon the various principles involved in the art and science of the profession.

In this respect it will differ materially from the American Dental Convention, at least in its operations thus far.

In the National Association, committees are appointed, whose duty it is to investigate the various subjects pertaining to dental science, and embody the results in well written, comprehensive essays, that may in some sort be referred to as the extent of attainments in the particulars treated of. These committees have a whole year in which to prepare their reports, and if they are industrious and energetic, which no doubt they will be, such progress will be made in dental science and art, as has not yet been dreamed of. We expect that many subjects will be brought forth, and made to render tribute, that have not heretofore entered into dental discussions, and those that have will be more thoroughly examined and considered.

T.

MOUNTING TEETH WITH DOUBLE PLATES.

WE notice that Dr. Meriman has the patent for constructing sets of teeth with double plates ; the teeth are soldered to a narrow base plate. This narrow plate, after the teeth are attached, is riveted to the main plate, and in this way heating the plate is avoided, and consequently the springing that so often occurs in this process.

It is said by those who have used it, that a piece of work is quite as easily and expeditiously put up as by the common method ; the work is easier finished than the ordinary work. We have seen the same principle applied in the construction of continuous gum work, the teeth and gum put upon a narrow base plate of platinum, and this riveted to a main plate of gold.

There is recently introduced to the notice of the profession another method of attaching teeth to gold plates, without heating the plates to warp them ; this is by an attachment of vulcanized rubber ; of the efficiency of this we do not know personally, but much is claimed for it.

Of the patents connected with these methods we now have nothing to say ; on the subject of dental patents, we intend some time to express ourself. T.

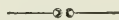


SERUM IN PULP CAVITIES.

IN conversation recently with Dr. Allport, on the probability of the passage of serum through dentine, he remarked, that he entertained scarcely a doubt that the two apparently different opinions entertained upon the subject were perfectly reconcilable, and that there was no real ground for the controversy that has existed upon the subject.

He remarked that from various experiments which he made, he does not entertain a doubt that the dentine of persons prior to middle age, and especially that of young persons, will afford a ready passage for fluid through it into pulp cavities and canals, and especially if these are sealed up so as to form a vacuum. But that, upon the other hand, he is as fully of the opinion that the dentine may be easily prepared, so as to preclude the passage of any fluid through it. This may be done by the application of creosote or any similar oil, applied to the dentine, which it absorbs, till it be-

comes saturated, and this prevents the passage of any other fluid. The treatment to which the fangs are ordinarily subjected, brings about this very desirable condition, when the pulp cavities are not to be filled. We do not remember to have seen this idea advanced before; it is an important feature, and is applicable as well in cases where the fangs and pulp cavities are filled, as where they are not. Creosote is a very general application in the treatment of fangs, preparatory to filling or closing up. T.



A TREATISE

On the medical history and treatment of diseases of the teeth and the adjacent structures. By B. W. RICHARDSON, A. M., M. D.

THIS is a work recently issued by H. Bailliere, of London. It consists of the very able lectures delivered by Dr. Richardson before the members of the College of Dentists of England, during the session of 1858 and '59. It is a valuable acquisition to dental literature. In it many of the points of dental science are discussed and elaborated with great ability. A depth of thought and research are here exhibited, that is too seldom found in our dental literature. The work fully sustains the high reputation of the author. It is a work that every one making any pretensions to professional attainments, should have at hand. It may be obtained at the Dental Depots, and we presume at bookstores generally. T.



Ventilation of Rooms at Night.—An extraordinary fallacy is the dread of night air. What air can we breathe at night but night air? The choice is between pure night air from without and foul night air from within. Most people prefer the latter.

An unaccountable choice. What will they say if it is proved to be true, that fully one-half of all the disease we suffer from, is occasioned by people sleeping with their windows shut? An open window most nights in the year can never hurt any one. In great cities night air is often the best and purest air to be had in the twenty-four hours. I could better understand in town shutting the windows during the day than during the night, for the sake of the sick. The absence of smoke, the quiet, all tend to making night the best time for airing patients. One of our highest medical authorities on consumption and climate has told me that the air of London is never so good as after ten o'clock at night.—*Florence Nightingale.*

THE DENTAL REGISTER OF THE WEST.

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[No. 4.]

Original Essays and Communications.

DENTAL TEACHINGS.

BY W. H. ATKINSON.

Read before the American Dental Convention at Saratoga, August 9th, 1860.

ALL teaching must needs flow to the mind from a plane above it, or it is but a repetition of knowledge already attained, and if not forgotten, ready for use.

Had our teachings been *entire*, instead of horribly fragmentary, such aphorisms as the above would have been uncalled for.

Feeding seems to be the main business to which tooth doctors should direct their attention. Just how to define feeding is the great stumbling-block in the way of those who would help folks to a sound body.

Science being a circle, it matters but little at what point in that circle we make our start. Nevertheless, there are certain divisions in this circle, that it will facilitate progress to note, and begin at the line dividing them, and then travel either way to complete the curriculum.

And as "Dental Science," in the very nature of things, is but a small division of general science, we will do well to take heed that we keep within the legitimate limits of that department.

Feeding properly belongs to cell, organ and system; and

that the organs and cells constituting our systems may be fed, pabulum must first be brought into the system, and *there prepared* for the purposes of nutrition, which always takes place in cells first, and these, by developing organs by aggregations of these cells, growth and nutrition are effected. So that feeding, in the strictest sense, belongs to that little understood part of our being, its basal and elemental existences. But in the sense of supply to the system, feeding takes place in mouths, in which TEETH are the principal means of division and comminution; then, that we may be *well* fed, it becomes necessary for *these* to be in sound and regular condition, to secure which is the object of all dental teachings.

Now, if the first proposition, aphorism or statement be true, we do not stand fully up (as individuals) to our aggregate advancement in every department of our knowledge, and hence some are on a plane above their fellows in some things, and they on a plane above us in others. So if our teachings and learnings have been fractional, we are, of course, not fit to lead in all departments.

To properly understand our relative positions, we must come in contact, compare notes; and this is best effected, not on a logical basis of argumentation, or long, prosy dissertations upon the details of our specialty of medical science, but by the free interchange of untrammelled questioning, in a word, practical and scientific conversations.

If any object and say, "no man *can* do as well at an off-hand, prompt answering of queries upon the moment," I have only to refer him to the explanatory note after the first aphorism in this paper, to show him where he stands—which convicts him of either never having known the answer, or else having been so little interested in it as to permit it to be forgotten, and really gives us the best measure of the man. For who among us, if a sufficient time for research be allowed him, is not capable of collecting all that has ever been written on any given question by the shrewdest minds and most laborious hands—and thus steal the real thunder of some one

else, to flash forth its lightning, to illuminate our worthless heads with the halo of a temporary glory, and thus entrap us into the error of hoping to find a reservoir of all the knowledge treated of in the paper, in the head of the writer, only to be let down to zero when the proof of a few pointed questions are directly and well put !

It is, gentlemen, depend upon it, only the offspring of *untruth* and a desire to pass for more than we are worth, that first inaugurated this mode of doing up scientific discussions on this side of the great water. An ambition to lead has taken hold of the great majority of our teachers in the various Colleges and Academies of scientific lore. And from this starting point they have traveled a certain way and stuck their stakes, (boldly as ignorantly) asserting that all beyond was in the "unknowable" regions of dark nonentity. If you wish a certain proof of my assertion, please just retort back the same inquisition upon the "Leader," that he unfeelingly put upon his pupil, and his reply will clearly define where he is. If he patiently goes through a clear and satisfactorily elucidated explanation, he is a leader, and worthy so to rank. But if he throws himself back upon his dignity, and measuredly says, "My dear sir, I wish you to know *you* can not quiz *me*," then he is, beyond all question, *not* a legitimate leader or teacher.

Probably no one, during his whole career of instructing, has been so pure and truthful as not (at some period or incident of his experience) to see his own portrait in this odious picture. But to those who are willing and determined to advance to the point where they will be able to stand the *test*, I would say, you need not tarry in all the plain of sloth and error, but with the fleetness of the antelope flee to the pure elevations of the mountain fastnesses of science and truth, where the bare remembrance of former sins and trials shall only enhance your joy at being fully delivered from them, and being introduced to the blessed freedom that a knowledge of the truth alone can give.

Then let us not imprison ourselves in false dignity and puerile conceptions, while the whole field of pure science and research lies open before us, inviting us to the rich culminations of her varied branches, in a truly advanced and useful practice of a *living*, if not "well established" profession.

And for the encouragement of those members of our specialty who have thought themselves the very men with whom knowledge was doomed to die, I cheerfully reiterate, "Where *sin* abounded, *grace* did much *more* abound!" And "whosoever will, let him come and *partake*" of the light *beginning* to focalize in the congregating of the most earnest of our body, from time to time, to illuminate the whole by the aggregation of each one's little spark, until, by the laws of affinity and impartation, we shall have equipoised the entire of what the mass possesses so perfectly as to have banished the word "failed" from our vocabulary.

Let each one freely open his mouth, and not be frightened at his own noise, as Crusoe was, but persistently keep it opened till it is filled with something to SAY, and then truthfully and plainly project it, and I will warrant we will have a profitable time, especially if we follow the simple conversational plan. After each speaker has given vent to his pent up goods (that have laid musting on his mental shelves so long, that he forgot to eject them, if for no other purpose, to make place for new and more appropriate ones for the time and occasion), let any and all be free to propound questions to him touching the subject-matter of his speech.

In this way the ball will be at once easily set to rolling, and you who do not like to see it move, had better get out of the way; for these conditions fulfilled, such a rate of progress will have been secured as will be a caution to all who like the old ox-team style.

The advantages resulting from such a course are too patent and numerous to require specific statement. I therefore will only name a few.

1. Freedom from dignity and restraint.

II. Fraternity and unity of *feeling* (the highest of our faculties.) We ought to come together, not to manufacture, but exchange commodities, as at Irish and other fairs. And he who has come only to buy for the ready cash of attentive, intelligent listening, will probably go away quite as well satisfied as the cask just ready to burst for freedom, will after having ventilated itself to its perfect easing, only to be replenished with new material upon which to exert its refining power of fermentation, till the new contents shall have brought it to the declamatory state by full ripeness, and they in turn be freed by a like explosion.

With something like the foregoing, with the following for a chart or tressel-board upon which to draw out designs :

I. Be good and true.

II. So use thine own as not to infringe the right of thy fellow.

III. Do good and *no* harm all the days of thy life.

IV. When rebuked, count it a joy and evidence of preparation for the rebuker or rebuked to be advanced.

V. "Let brotherly love continue."

Now, after thus disturbing, I cheerfully and hopefully await the *moving* of the waters.



THE ANATOMY, PHYSIOLOGY, PATHOLOGY, AND REMEDIAL TREATMENT OF THE FIFTH PAIR OF NERVES.

BY J. H. M'QUILLEN, D. D. S.

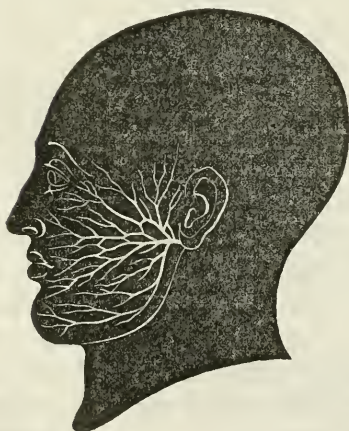
[A synopsis presented to the American Dental Association, Washington, D. C., Aug., 1860.]

WHEN merely regarding the dental organs as isolated portions of the human economy, the various evolutions which they undergo in the progress of their growth, the changes of maturity, the removal of the first set, and the replacement of more numerous and durable successors, and the different casualties to which these are subjected, are each and all interesting and important subjects of inquiry—but when directing

attention to their sympathies, as organs of a curiously complicated structure, in alliance with the brain, through nerves which, in addition, are connected with the great sympathetic nervous system, and which brings them in close relation with the other organs concerned in nutrition, the varied influences they possess become an additional and more extended field of observation. It must be evident, therefore, to every medical and dental practitioner, that a correct knowledge of the anatomy and physiology of the fifth pair of nerves, and of the intimate relations existing between them and the nervous system generally, is indispensable to a proper appreciation of the pathological conditions to which these nerves are liable, and the sympathetic derangements frequently developed in other portions of the economy, induced primarily by dental irritation.

It may be truly said, that the first step toward the cure of disease, is to discover what the disease is, and where it is situated. The search, however, to determine what organ or function is deranged, must be most vague and indefinite without a knowledge of the structure, offices, and relations which

FIG. 1.



FACIAL NERVE—FROM DALTON.

the various parts bear to each other and the organism generally. The practice of medicine, surgery, and dentistry afford numerous examples illustrating the position, that a sound and rational practice in either department must be based upon a correct knowledge of anatomy and physiology. To no portion of the human economy, however, does this remark apply with more force than

to the fifth pair of nerves; for, prior to the valuable discoveries of Sir Charles Bell and other investigators, with regard to the functions of the cranial nerves and the general doctrines of nervous action, it was supposed that the seat of that painful affection, *tic douloureux*, was in the *facial* nerve or portio dura of the seventh pair. Carefully conducted experiments, however, have clearly demonstrated, not only that the facial nerve is, to a very great degree, devoid of sensibility, and, therefore, can not be the seat of a painful affection, but that, emerging from the stylo-mastoid foramen, and then passing through the parotid gland, to be eventually distributed to the superficial muscles of the face, in the form of a plexus, named *pes anserinus*, it is purely a motor nerve, upon the integrity of which the expression of the countenance and the varied play of the features depend. Before this was ascertained, section of the nerve at the stylo-mastoid foramen was frequently performed for the relief of patients suffering under *tic douloureux*, but with no other result than inducing paralysis of the superficial muscles and complete loss of expression on the side of the face operated upon, the patients, after the operation, still suffering as much from the disease, and, in addition, being unable to close the eyelids, move the lips, or elevate the ala nasi of the affected side. Though essentially a motor nerve, it must be acknowledged that the branches of the portio dura possess, in addition, a certain amount of sensibility; this appears to be due, however, to the numerous anastomoses which take place at various points between it and the fifth pair of nerves.

In alluding to the importance of a knowledge of the anatomy and physiology of the fifth pair of nerves, reference has also been made to the relations existing between them and the nervous system generally. Now, to fully comprehend the cerebral, thoracic, and abdominal disturbances which unquestionably arise from dental irritation, particularly in early childhood, it is necessary that the three great divisions of the nervous system—the cerebro-spinal, the true spinal, and the

great sympathetic—should be made the subject of careful study and observation. It would be out of place, and foreign to the purpose of this communication, however, to enter into a detailed consideration of these important subjects; but it may not be amiss to direct attention to them in a cursory manner, so that the relations existing between them and the fifth pair of nerves may be made apparent to all, and also that it may stimulate those who are not perfectly familiar with these subjects to cultivate a thorough and intimate acquaintance with them.

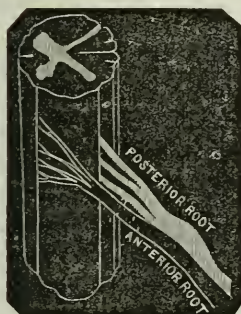
The *Cerebro-Spinal* nerves consist of *sensory* and *motor* nerves, which pass to, and proceed from, the *brain*, along its base, or *along the spinal cord*, to every part of the economy, giving sensation and voluntary motion; in other words, being the medium through which the mandates of the will are transmitted, making any part of the organism move responsive to it.

The *Reflex* or *True Spinal* nerves consist of *excitor* and *motor* nerves, which, however, only run to and proceed from the *spinal cord* and its intra-cranial continuation to the different parts of the body, and preside over the involuntary movements of the respiratory, circulatory and digestive organs. There is little or no evidence of a disposition to involuntary movements in the extremities of the human body during health or in the waking condition, as they are restrained by the controlling influence of the brain; but under the influence of certain medicines, and in certain diseased conditions of the brain and spinal cord, they become quite marked.

The *Cerebro-Spinal* and the *True Spinal Nerves* combine to form—though no *actual* union of their fibres takes place—the thirty-one pairs of nerves coming off from the sides of the spinal marrow at regular intervals, and passing out through the intervertebral foramina, to be distributed to the neck, trunk, extremities, and internal organs. These two systems are each connected with the spinal cord by two roots, anterior and posterior, the latter being the larger, and having formed

upon them, in the intervertebral foramen, a ganglion. A little beyond this ganglion the anterior and posterior roots coalesce—their fibres, however, remaining distinct—and form the compound or mixed spinal nerves, which, after issuing from the intervertebral foramen, divide into anterior and posterior branches, each containing fibres from the different roots. Every spinal nerve, therefore, contains four sets of fibres, two belonging to the cerebro-spinal and two to the true spinal; the first set conveying sensation to, and volition from, the brain; the second set conveying impressions to the spinal axis, and reflex motor influence to the muscles.

FIG. 2.



SPINAL CORD, WITH NERVE ARISING BY ANTERIOR AND POSTERIOR ROOTS.—FROM GREY.

FIG. 3.

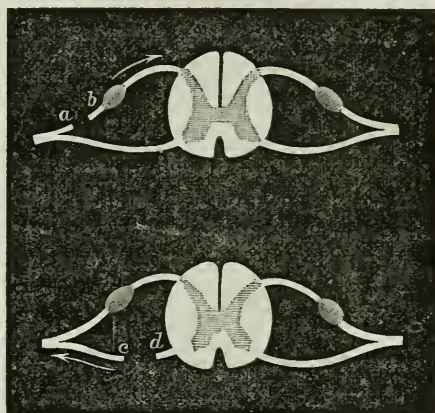


DIAGRAM OF SPINAL CORD AND NERVES.—FROM DALTON.

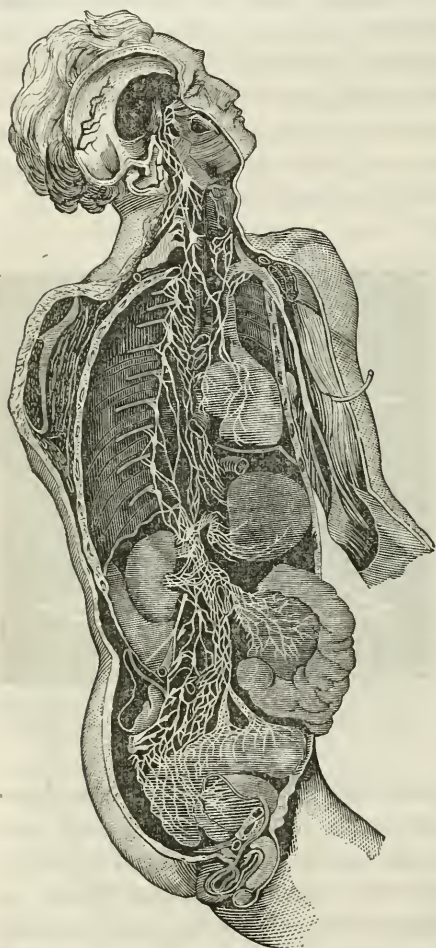
The posterior root is seen divided at *a b*, the anterior at *c d*.

By carefully conducted experiments, the functions of the anterior and posterior roots of the spinal nerves have been clearly demonstrated: when, for instance, the anterior root of one of the nerves is cut, loss of *motion*, but not of *sensation*, occurs in the part to which the nerve is distributed; if, on the other hand, the posterior root is cut, loss of *motion*, but not of *sensibility*, supervenes. Hence it is justly inferred that the anterior root is *motor* and the posterior root *sensory*.

The *Great Sympathetic* system consists of a double chain of

ganglia, commencing at the base of the brain and extending downward on each side and in front of the vertebral column to the os coccyx, where they unite at the ganglion of *Impar*.

FIG. 4.



COURSE AND DISTRIBUTION OF THE GREAT SYMPATHETIC.
FROM DALTON.

This series of ganglia is the connecting medium between all the nerves of the body, and anastomoses with the cranial and spinal nerves as they emerge from their respective cavities. Thus the *ophthalmic*, the *sphenopalatine*, the *otic*, and the *submaxillary ganglia*, occupying spaces between the bones of the cranium and of the face, are connected with each other and with the three branches of the fifth pair of nerves; and each of the three *cervical*, twelve *thoracic*, five *lumbar*, and four *sacral* ganglia situated in front of the vertebral column receives motor and sensory filaments from the cerebro-spinal system. In addition to being connected with each other by slender longitudinal

filaments, and with the cranial and spinal nerves, the

ganglia give off branches which form numerous plexuses, and are distributed to the heart, liver, intestines, kidneys, blood-vessels, and other organs, over which the consciousness and

ANATOMY OF THE FIFTH PAIR OF NERVES.

FIG. 5.

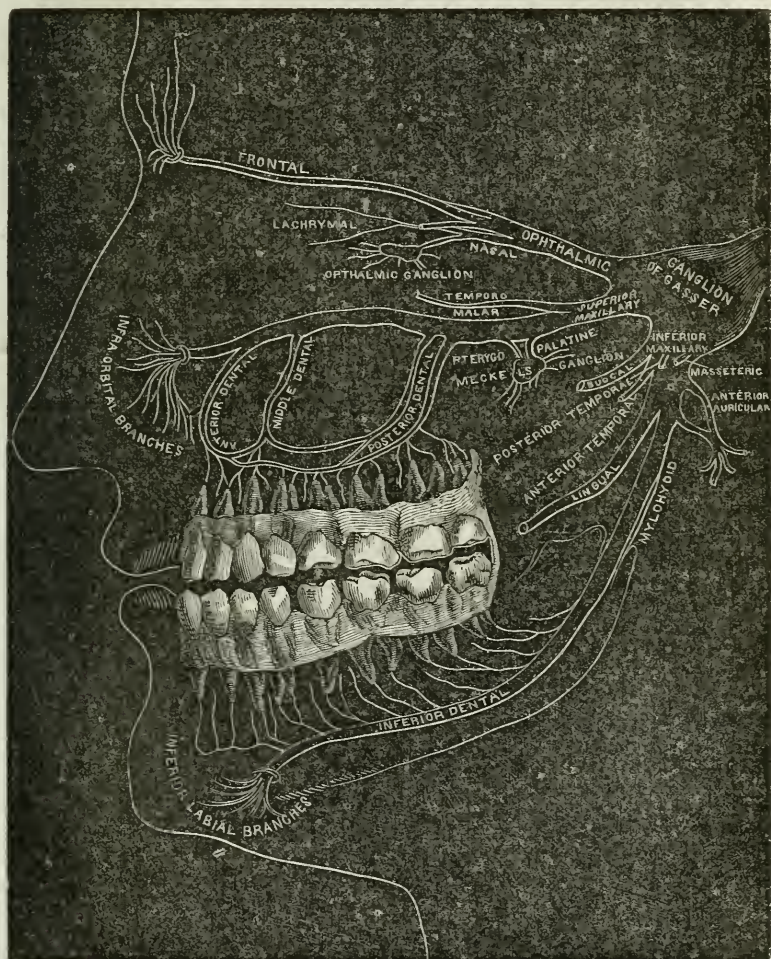


DIAGRAM MODIFIED AFTER TOMES.

the will have no control. The office of the sympathetic is supposed to consist, for the most part, in placing the organic in relation with the animal functions. This, however, can not be the exclusive office of the sympathetic, for, being composed of white and gray neurine, it is reasonable to look for a compound function, viz.: sensation and motion; and observation and experiment sustain the position that it does bear such relations to the viscera. After a careful investigation of all the facts connected with this system of nerves, physiologists generally have arrived at the conclusion that it exercises a threefold office: "first, that of a sensitive nerve to the parts to which it is distributed; secondly, that of a motor nerve for certain muscular parts; and thirdly, that of a nerve for the blood-vessels, supplying them with the power of contractility." In addition to this, as every ganglion is connected with other ganglia, when one of them is excited, the sensation awakened in the first may be transmitted along the entire chain, and thus arouse a train of phenomena, which may be slight or grave, according to the condition of the system and the nature of the exciting cause.

After these necessary and introductory remarks, to prevent confusion, it will be proper to take up the subject-matter of the paper in sections, commencing with a condensed, but it is trusted a comprehensive description of the *Anatomy of the Fifth Pair of Nerves*. (See preceding page.)

The FIFTH, TRIFACIAL, or TRIGEMINUS NERVE, is analogous to the spinal nerves in its origin by two roots, anterior and posterior, or motor and sensory, the latter, also, like them, being the larger root, and having a ganglion upon it.

The *posterior root* has its origin, or physiologically speaking, its termination, in the lateral tract of the medulla oblongata, immediately behind the olivary body, and is composed of thirty or forty fasciculi, which are divisible into a hundred filaments. Tracing the root from its point of termination outward, it is found to ascend to the pons varolii, pass between its fibres, and then emerge from it in a filamentous

trunk, where the pons joins the *crus cerebelli*; it then passes forward and expands into the large semilunar ganglion of Gasser, which rests in a depression on the upper surface of the petrous portion of the temporal bone. From the ganglion of Gasser three large trunks arise, of which the first or *ophthalmic* passes out of the skull through the sphenoidal fissure, the second or *superior maxillary* through the foramen rotundum, and the third or *inferior maxillary* through the foramen ovale.

Turning to the *anterior* or *motor root* of the fifth, it is found to consist of a very few fasciculi, which arise from the pyramidal body of the medulla oblongata, and pass through the pons varolii close to the sensory root, without, however, any union taking place between the fasciculi of the two roots. After emerging from the pons, the motor root passes under the sensory root and the ganglion of Gasser, and escapes from the skull through the foramen ovale, where it unites with the inferior maxillary branch just beyond the *otic* ganglion.

Proceeding now to trace the course of the three branches given off from the ganglion of Gasser, the first presented is

THE OPHTHALMIC NERVE.

The *Ophthalmic Nerve*, which comes off from the upper angle of the ganglion, is about an inch in length, somewhat flattened, and runs in the direction of the sphenoidal fissure, through which it passes to the orbit, where it divides into three branches: the frontal, lachrymal, and nasal.

The *Frontal Nerve*, the largest branch of the ophthalmic, passes forward for some distance, along the upper part of the orbit, and then divides into the supra-orbital and supra-trochlear, the first escaping from the orbit by the supra-orbital foramen, the second passing to the angle of the orbit. They are distributed to the integument of the forehead, upper eyelid, and the conjunctiva.

The *Lachrymal Nerve*, the smallest division of the ophthalmic, proceeds along the external part of the orbit to the lach-

rymal gland, where it divides into a superior and inferior branch, which are distributed to the upper and under surface of the gland, upper lid, and outer angle of the eye; the superior branch, in addition, anastomosing with the facial nerve.

The *Nasal Nerve* crosses the optic nerve and leaves the orbit by the anterior ethmoidal foramen, and then passes through the slit-like opening by the side of the crista galli of the ethmoid bone, and descends into the nasal cavity, where it divides into an internal and an external branch, the first to be distributed to the mucous membrane of the interior, and the second to the integument of the exterior of the nose. The nasal nerve also gives off in the orbit several branches: a *gaglionic branch*, which enters the upper angle of the *ophthalmic ganglion*; two or three long *ciliary branches*, which pierce the sclerotic coat of the eyeball, and are distributed to the iris; and an *infra-trochlear branch*, which passes to the inner angle of the eye, to be distributed to the lachrymal sac.

FIG. 6.



OPHTHALMIC GANGLION.

FIFTH PAIR OF NERVES.—From SIR CHARLES BELL. 1. small root; 2. large root, with ganglion of Gasser; 3. ophthalmic nerve; 4. superior maxillary; 5. inferior maxillary; 6. chorda tympani; 7. facial nerve; 8. ophthalmic ganglion; 9. Meckel's ganglion; 10. submaxillary ganglion; 11. submaxillary gland; 12. lingual nerve; 13. inferior dental.

The *Ophthalmic*, *Lenticular*, or *Ciliary Ganglion*, is a small, flattened, quadrangular body of a reddish gray color, (like other sympathetic ganglia,) situated within the orbit, in close proximity to the optic nerve. It unites by communicating branches or roots with the carotid plexus, the *third nerve*, or *motor-oculi*, and the nasal branch of the ophthalmic nerve, and gives off about ten short ciliary nerves from its anterior border, which pierce the sclerotic coat of the eyeball, and are distributed upon the iris.

THE SUPERIOR MAXILLARY NERVE.

The *Superior Maxillary*, or second division of the fifth nerve, comes off from the middle of the ganglion of Gasser, and pursues a horizontal course to the foramen rotundum, through which it passes to cross the spheno-maxillary fossa, and then enters the canal in the floor of the orbit, along which it runs to the infra-orbital foramen. The branches of the superior maxillary are the *Orbital*, *Spheno-palatine*, *Posterior*, *Middle*, and *Anterior Dental*, and *Infra-orbital*.

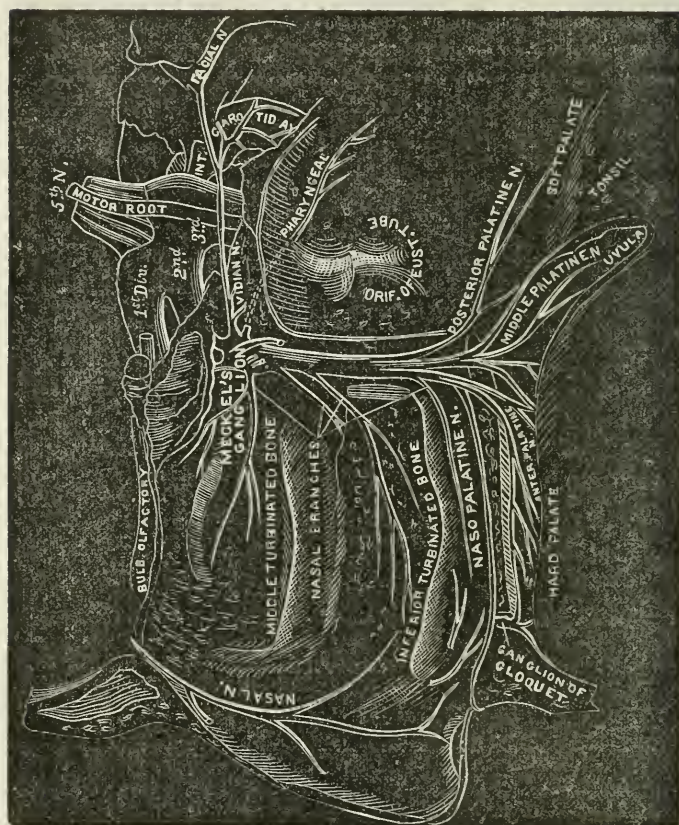
The *Orbital* or *Temporo-Malar Nerve* enters the orbit and divides into two branches, the *temporal* and *malar*. The *temporal* branch ascends along the outer wall of the cavity and anastomoses with the lachrymal branch of the ophthalmic, and then passes through a foramen in the malar bone and enters the temporal fossa, where it communicates with the facial and the temporal branch of the inferior maxillary, and is distributed to the integument covering the temple and side of the face. The *malar* branch runs along the outer wall of the orbit, and eventually escapes through a foramen in the malar bone, and anastomoses with the infra-orbital and facial nerves in the cheek.

The *Spheno palatine* branches are two in number, and pass to the ganglion of Meckel, in the pterygo-maxillary fossa.

The *Posterior Dental* branches arise from the superior maxillary nerve just before it enters the infra-orbital canal, and pass through small foramina in the tuberosity of the max-

illary bone, and are distributed to the pulps of the upper molar teeth, lining membrane of the antrum, and gums.

FIG. 7.



The *Middle* and *Anterior Dental* arise from the superior maxillary nerve in the infra-orbital canal, and pass through small foramina in the walls of the antrum, and are distributed to the pulps of the superior bicusps, canines, and incisors, the lining membrane of the antrum, gums, and mucous membrane of the nares and palate. They also anastomose with the posterior dental.

The *Infra-orbital* branches, three in number, the *Palpebral*, *Nasal*, and *Labial*, are the terminating filaments of the superior maxillary nerve, which pass out of the infra-orbital foramen, and are distributed to the eyelids, nose, lips, and cheeks. They anastomose with the facial nerve.

SPHENO-PALATINE GANGLION AND ITS BRANCHES.

The SPHENO-PALATINE, or MECKEL'S GANGLION. The largest cranial ganglion is situated, as before stated, in the pterygo-maxillary fossa. The nerves connected with this ganglion are the *spheno-palatine*, which ascends to the superior maxillary nerve; the *palatine*, (anterior, middle, and posterior,) which descend, pass through the posterior palatine foramen, and are distributed to the hard and soft palate, tonsils, and mucous membrane of the nares; the *nasal* and *naso-palatine*, branches, which enter the nasal fossa by the spheno-palatine foramen, and are distributed to the mucous membrane of that cavity—the *naso-palatine* passing forward and joining its fellow in the foramen incisivum, and forming the ganglion of *Cloquet*; and the *Vidian*, which passes backward from the ganglion through the Vidian foramen, and divides into the *superficial* and *deep petrous*, the latter joining the carotid plexus, while the former, continuing on, first enters the *hiatus Fallopii*, and passing through it to the aqueductus Fallopii, joins the facial nerve. Properly speaking, this is the motor root of the spheno-palatine ganglion, and arises from, rather than passes to, the facial nerve.

INFERIOR MAXILLARY NERVE.

The *Inferior Maxillary Nerve* comes from the lower and posterior part of the ganglion of Gasser, and passes out of the cranium through the foramen ovale, where a small ganglion, the *otic*, is found, and just at this point the motor root unites with the inferior maxillary nerve. Soon after this union the nerve divides into two branches, the external and the internal.

The external division sends off five branches, the *Massele-ric*, *Deep Temporal* (two in number,) *Buccal* and *Pterygoid*, to the different muscles whose names they bear.

The internal and larger branch of the inferior maxillary divides into the *Auriculo Temporal*, the *Inferior Dental*, and the *Lingual* or *Gustatory*.

The *Auriculo Temporal* arises by two roots, and passes directly backward behind the articulation of the lower jaw, and then ascends between that joint and the ear, being covered by the parotid gland; on emerging from beneath the gland, it divides into the *anterior* and *posterior temporal*, which are distributed to the integuments of the temporal region. Branches are also given off which pass to the parotid gland, the pina, and meatus of the ear—and it has, in addition, branches of communication with the otic ganglion and the facial nerve.

The *Inferior Dental Nerve* passes to the posterior dental foramen of the lower jaw, and running along the canal in the middle of the bone, gives off branches to the pulps and periosteum of all the lower teeth, and also sends filaments to the gums, a portion of the nerve emerging from the anterior mental foramen, and is distributed to the mucous membrane and integument of the lower lip and chin, and anastomosing with the facial nerve. Prior to entering the foramina, a small branch, the mylo-hyoid, is given off to the muscle of that name; it also sends filaments to the digastric muscle.

The *Gustatory* or *Lingual Nerve* passes downward from its origin to the side of the root of the tongue, which it enters above the submaxillary gland, and then curves forward, and, anastomosing with the hypoglossal nerve, diverges after this into several slight fasciculi, which terminate in the papillary structure of the tongue. It sends branches to the mucous membrane of the mouth, submaxillary ganglion, tonsils, and pharynx. The *Chorda Tympani*, a branch of the facial nerve, which arises from it in the aqueductus Fallopii, crosses the tympanum, and escapes through the fissura Glasseri, and,

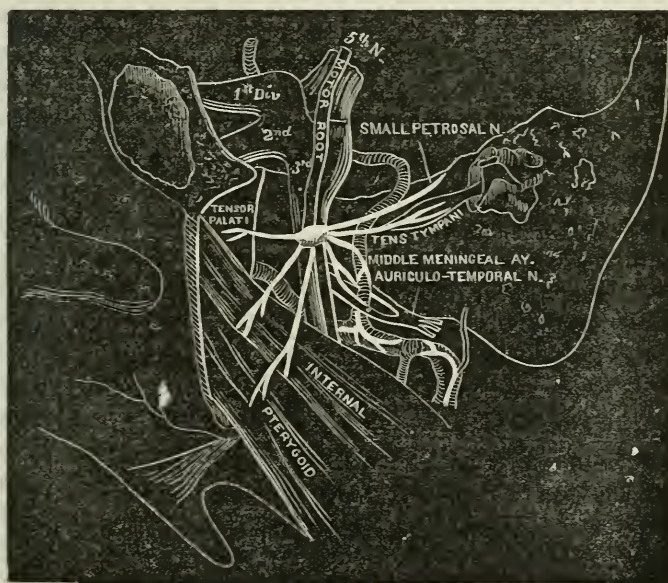
uniting with the gustatory nerve, accompanies it to the submaxillary ganglion.

THE SUBMAXILLARY GANGLION.

The *Submaxillary Ganglion* (See Fig. 10, diagram of Sir C. Bell,) is a small, round, or triangular body, which lies upon the gland of the same name, close to the *gustatory nerve*, from which it derives its sensitive filaments, the motor filaments coming from the facial nerve by the *chorda tympani*; it also communicates by longitudinal filaments with the superior cervical ganglion, and sends branches to the submaxillary and sublingual glands and the sides of the tongue.

OTIC GANGLION.

FIG. 8.



MODIFIED FROM GRAY.

The *Otic Ganglion*, as already stated, is a small oval ganglion connected with the inferior maxillary nerve, near the

foramen ovale. It receives filaments of communication from the carotid plexus, a sensory root from the inferior maxillary branch of the fifth pair, a motor root from the facial nerve, and sends filaments to the tensor tympani muscle and the mucous membrane of the tympanum and Eustachian tube.

(To be continued.)

EXPOSED PULPS—SECONDARY DENTINE.

BY GEO. WATT.

THERE is some diversity of sentiment, among dentists, on the subject of exposed pulps. This is refreshingly evident, from the reports of discussions, at the late meeting of the American Convention. Diversity of opinion, on an important subject which is but partially understood, is an evidence that progress is about to be made toward its thorough investigation. Some points, in regard to this subject, appear to be already settled. All agree that a living, healthy pulp is important to the well-being of the tooth. All admit that exposure of the pulp is a misfortune. Every dentist endeavors to avoid its unnecessary exposure. But when this misfortune has happened—when the pulp is exposed, what is to be done? That is the question.

Many prominent dentists—a majority, perhaps—advocate the extirpation of the pulp, in all cases of exposure. The slightest exposure of the pulp of the most important tooth of the healthiest patient, meets with no mercy at their hands. The pulp is exposed. That is sufficient. It must be destroyed. If the profession is to be restricted to but one mode of practice, in the treatment of exposed pulps, that of extirpation is, doubtless, the one to be adopted. There are some, however, who claim that, in many cases, there is “a more excellent way.”

While they treat, by extirpation, a large majority of the cases of exposed pulps presented to them, there are some who maintain that we should discriminate, in regard to the

character of the cases referred to us. They believe that a slight exposure of a healthy pulp, in a good constitution, does not call for extirpation. They claim that the pulp, under such circumstances, may be preserved by proper treatment, and that, consequently, the tooth will be much more likely to be permanently useful, than if it were destroyed.

This is a very important question. There is none before the profession more so. In its investigation, all prejudices should be laid aside. No one can afford to be in error here. If some teeth can be saved alive, throughout their entire structure, after their pulps are exposed, it is important to know what ones. If none such can be saved, it is as important to know it; for those who try to save them, merely torture their patients, and bring reproach on their profession.

Let us, then, inquire what is the exact condition of a pulp that is merely exposed, but not diseased. And by the term pulp, here, without aiming to be technical, we include all the soft tissues found in the interior of a normal tooth.

The pulp is a highly organized soft tissue. It is well supplied with both vessels and nerves; and the diameter of the former is sufficient to admit the red globules, and, consequently, all the constituents of the blood. It has the ordinary physiological properties and functions of other soft tissues, and is, therefore, liable to all the ordinary pathological changes of such tissues. It may be wounded; and the wound may heal. It is liable to inflammation; which may terminate in resolution, suppuration, ulceration, or mortification. Like other soft tissues, it admits of contact with some foreign bodies, without being pained. And, like them, it may tolerate such contact for some time, without taking on inflammation, or even irritation. It is covered by, or invested with the lining membrane of the pulp cavity, and has a vital connection with it. This membrane bears the same relation to dentine that the periosteum does to ordinary bone, and performs corresponding functions. It is the medium of connection between the soft parts of the system and the den-

tine. It supplies ossific matter to the dentine, as the periosteum does to bone. By the normal fulfillment of its function, the pulp cavity is lessened, as age advances; and, by an increase, or quickening of this function, the pulp is often protected from exposure by the wearing away of the teeth, or by caries. Both the physical and chemical properties of dentine vary with the condition of this membrane while depositing it. When there is nothing to disturb its functions, ordinary dentine is deposited by it. When its vital energies are aroused, "secondary," or rather, modified dentine is formed; and when its vital force is depressed, or there is a lack of ossific matter in the blood, this modified dentine is often porous and irregular, and, sometimes, closely resembles cementum.

Now, it is a well recognized fact that the periosteum will deposit bone, even when deprived of its ordinary connection with bony structures. All that is necessary is for it to have a vital union with the general circulation. When stripped from the bone, and transplanted, it still performs its normal functions. A bone may be lost by necrosis, but, if the periosteum remain, a new bone will be formed, resembling the lost one in shape in proportion as the integrity of the periosteum was preserved.

Bearing these principles in mind, we will endeavor to apply them, shortly.

The propriety or impropriety of ever attempting to preserve an exposed pulp, is to be determined by a careful consideration of two questions: 1. Is there any substance, which can be permanently retained in the tooth cavity, which the pulp will tolerate as a substitute for its wall of dentine? 2. Is the pulp (the lining membrane being included) capable of depositing dentine, or other bony tissue, for its own protection? Each of these questions must be answered by observation and experience. Theory can, and does give much light on the subject; but it must be verified by experience, before we can rely implicitly on it.

In answer to the first question, it may be stated that there are well authenticated cases, in which the pulps have retained their vitality for months, and even for years, though in contact with a foreign body introduced in filling the teeth. But even if this question is answered in the negative, let us examine the second. All, I believe, admit that the pulp is the organ which deposits the bony matter of the tooth. Now, when the pulp is exposed, does it lose all ability to perform its functions? It yet retains its vitality and is often found perfectly healthy. Or is it merely the point exposed that has lost its function? Why should it lose it, while it is still alive and healthy? True, it is no longer connected with the dentine; but we have seen that the periosteum will deposit bone when transplanted to soft tissue. The membrane at the point of exposure still retains its vital connection with the general circulation. It receives ossific matter, just as it did before exposure. Is there any physiological reason why it should not deposit it, just as the periosteum does, if it be thoroughly protected from external or foreign irritating agents? Or, if the part exposed does lose its function by exposure, is there any reason why the parts around the border of the orifice can not throw out osseous matter, and thus close the orifice? The periosteum can unite fractures, without exact apposition of the fractured parts. Recollect that the question refers only to cases of slight exposure. And when the exposure is slight, and the pulp and membrane are healthy, and the decayed matter is all removed, and irritating agents are carefully excluded, wherein does the case differ from that of a compound fracture? The circulation of the pulp is the same as that of the soft parts around a fracture, with this advantage, that its vessels are entire, while some of those concerned in the other case are ruptured. No one is surprised when a compound fracture heals by osseous union, for the simple reason that it is a common occurrence. When a fracture occurs, the parts are adjusted, and the patient is nursed, that it may heal. This has been the practice, from time immemo-

rial. But when the pulp is exposed, the tooth is extracted, or the pulp is destroyed, or left to die. From time immemorial, no one has cared for it. Hence comparatively few cases of recovery by osseous protection have been observed.

This brings us exactly to the turning point of the whole question. Have any cases been observed in which the pulp has protected itself, after exposure, by a deposit of dentine, or other bony tissue? And here we will be allowed to refer to names. And, in doing so, we only aim at the attainment of truth. And we have just as much respect for those with whom we differ in opinion, as for those with whom we agree. We will not attempt to give the views of many members of the profession; and as the discussions on the subject of exposed pulp, at the Saratoga meeting, are still fresh in the minds of our readers, we will notice, a little, the views expressed there.

Dr. Taft, the first speaker on the subject, in favorable cases, fills, temporarily, over exposed pulps, and claims that, in many cases, they are eventually covered by a bony deposit.

Dr. Atkinson sets up the same claim, and proposes to show cases of secondary dentine.

Dr. Dwinelle "alluded to specimens in his possession, where large portions of secondary dentine had been deposited." He also "gave a case where the nerve bled, was filled, and on being opened, a secondary formation of dentine was found." He states, farther, that he had "filled many cases, and examined them, and found secondary dentine." He "had examined such cases microscopically, and had specimens." He had "practiced filling such cases for years, with the greatest success."

Dr. Morgan "has often found secondary dentine in cases where a tooth has been filled over exposed pulps."

Many other members of the profession, that we might name, advocate the same practice, and claim like success. None of them maintain that it would do to treat all, or even

a majority of exposed pulps, this way. But they do maintain that if some teeth can be thus saved, it is worth while to make the effort. And they hope that still farther light will be gained, so that it will be easier to distinguish those which can be saved from those which can not.

On the other hand, we are told that Dr. Westcott has "met with no success," in this treatment for exposed pulp. How extensively and carefully he has tried it, we are not told; but, in the absence of information, we are to presume that he has given it a fair investigation.

Dr. Wetherbee "doubted the practicability of saving exposed nerves." He has "never seen a case of secondary dentine formed to protect a nerve."

"Dr. Rogers had never known of a case, where the pulp was wounded, to be restored by the use of caps, or any other method." He "thinks nine tenths of the pulps treated with a view to save their vitality, even by the best operators, fail."

Others, on both sides of the question, might be referred to, but these must suffice, as this article is already too long.

To the candid reader, a few questions would naturally present themselves at this point. Are those who advocate the preservative treatment of exposed pulps competent to judge accurately, in regard to the success or failure of their treatment? If they are not, is it because their ability to observe is defective, or because the subject is a difficult one? It can not be the latter; for it is easy to see an exposed pulp in some cavities; and, when it is wounded, the hemorrhage clearly reveals the fact of exposure. Nor is it difficult, after removing a temporary filling, to ascertain whether or not the pulp cavity is closed. New deposits of dentine, if any exist, are easily recognized. And if the pulp is dead, the odor, as referred to by Dr. Rogers, will generally reveal the fact.

We conclude, then, that those who advocate the preservative treatment, are as competent to observe facts, as those who recommend extirpation. They can see as well; and

their sense of smell is just as acute. They can probably detect a failure as readily as their brethren; and they have just as little interest in practicing erroneously. They are not at all superior to their brethren, however. But let us look at the testimony given. One party testifies, individually, that they think it reasonable that the pulp, in favorable cases, should be protected by a new deposition of bony tissue, and that they have seen many cases in which it has been thus protected. The others tell us that they think it unreasonable, and that they have never seen a case in which it has occurred. Shall our verdict be in accordance with that of his Honor the Mayor, who fined Patrick, because two witnesses said they saw him strike Tim., while a dozen said they didn't see him do it?



THE ONENESS OF DENTISTRY.

OPERATIVE and mechanical dentistry should be as strictly a unit, in scientific attainments, as the human body is unitary in the aggregation of its organs. As no work can be well performed without the justly balanced consent of head, heart and hand, so nothing perfect can emanate from a fragmentary Dentist.

I regret to see those who deem themselves at the head of the teachers' department in our profession, arraying hand against foot, and eye against ear, just as if all were not necessary to the completion of the good to the race with which we, as a profession, are charged. Let us not perpetuate the necessity to use us, on the part of patients, by a half expressed skill, by dividing and separating that which was designed to go hand in hand, and accomplish the nearest approach to original *soundness*, of parts and of whole bodies, the sure endowment of all, where no discordant influence is permitted to play its baleful part.

Do you ask how we shall arrive at this very desirable state of our professional body?

I answer,—by being so in earnest to do our highest, *every time*, that we shall forget the besetment of even *thinking* of the “fee,” till *after* the work is completed, in our highest and best manner. No doubt this will be “rule prohibitory” to some who acknowledge and call themselves dentists. But I do most emphatically state it, as the deliberate conclusion of my mind, after “due trial” and consideration. Most of the trials of my professional life crept in at the door of “determining, before hand, *just* what it was going to *cost*, to patient, in cash, and to me, in effort;” and I am willing to stand or fall upon the “turn of this die.”

No one is entitled to *assert*, where he can *demonstrate*, nor to tarry in the regions of “opinion” and “belief,” when he can have the clear and satisfactory light of *experience*, constituting the sure basis of well defined knowledge, to illuminate and guide him.

A higher “*morale*” *must* be taken by our profession, as a whole, to keep it from degenerating to the merest “Tinkering.”

What would my *beloved* brethren think of me, if I were to express, as the inmost conviction of my mind, that you could count, on your fingers, (and have a portion of the enumeration table left for future use) all the *legitimate* dentists on the continent? Or, still further, that, as yet, we have not, in all our ranks, *one* whole-souled and perfect dental type, whom it would be safe to follow, in *all* his practices?

If, then, we have had as yet no perfect work, what is the inference, in view of all the very excellent advances that have been made in the various departments of our specialty, to plainly so state and maintain? Simply this, that the time has not come when there is an end to our usefulness, in an increasing degree, leaving ample field for advancement to an indefinite number of earnest, zealous workers, in one and all of the *departments* of our *now* recognized, necessary calling.

He who gets an early start in the morning, is better able to keep up with the progress of the day, than he who deems himself quite competent to the duties he has not tried, and, presuming upon this, delays his preparation, till the day is far advanced. So he who has made the most of his spare moments, and has played the sluggard, or "nice young man," the least, in the days of his preparation for professional life, will, assuredly, stand in advance of any who, having facilities, depended upon them for a proper fitness for valuable service, instead of acquainting himself with the principles which, inevitably, underlie all legitimate and remunerative practice. Please notice, I place the first requisite in its proper place, that is, fitness before fees; and woe be to him who has the audacity to reverse the order, hoping, thereby, to elevate either himself or his profession. It is like endeavoring to build a cone, with apex for base, and will as surely topple over. Labor earnestly, unremittingly; and just as sure as you faint not by the way, a success, exactly commensurate with the effort bestowed to fit you to deserve it, will be yours to enjoy.

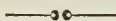
All who stop short of a fair degree of fitness, before commencing the responsibilities of practice, do themselves and the profession an irreparable mischief. By that very honesty of heart by which they should be blessed, they are cursed bitterly; because, their standard being low, they think they have attained all the attainable excellence, and are "as good as their neighbors,"—all of which being true, does not prove them honorable members of an honorable calling. All this, "I guess it will do," and "we'll make it go" sort of work, is but a plain enunciation that neither work nor operative is fit for use at all. And the sooner such practices and practitioners are completely severed from all connection with the profession, the sooner will the "weights" be "laid aside," and true progress come to the most progressive of sciences.

Rule, to determine who is fit, or *becoming* fit, for the high responsibilities of a free exercise of the function of Dentist:

Make every step of your service, in study and practice, a matter of highest duty—from inception to entire fulfillment, according to your *own* sense of perfectibility, without one lapse being left unretrieved.

All who do so comport themselves, will soon stand in the front ranks, for usefulness and respectability; and will have laid, surely and peacefully, the foundation of a higher happiness to themselves and those they serve. Thus they may *feel* that they are fulfilling the “dispensation committed to them.” And I would reject, as interlopers, thieves and robbers, all who have no “mission” to *feel* and acknowledge.

I.



SLABS FROM THE FURNACE.

BY JOE STACKPOLE.

MUCH has been said and written upon the subject of practical dentistry, and much remains to be said to aid the inquiring student in the dreary toil that he is necessarily subjected to when he first assumes the responsibility of those most valuable behests which he desires to preserve from the ravages of disease.

The abstract principle of dental phenomena, and dental manipulation, has been ground through a thousand mills, and left the public and the profession little benefited.

Oceans of ink, and warehouses full of paper, have been exhausted to illustrate a few plain truths, which if narrated in a simple, practical manner, would have saved the student the trouble of wading through folio after folio, too ambiguous for the young, and too profound for the more advanced.

There seems to be a difficulty, in these days of locomotive and telegraphic communications, in simplifying; or in other words, of resorting to the hand-barrow and cart to convey our goods to market.

Some new terms must be sought—some mystic word must

be paraded through every article in order that genius be made apparent in the profusion of words and symbols.

It has been wisely said that much dignity, with corresponding taciturnity, make many little men great. So it may be remarked of many of our would be great dentists. They are gifted in words and technicals, rather than in true practical knowledge. Hence the solution of a fact generally conceded, that great dental theorists are indifferent, if not absolute ignoramuses in the practical detail; and it also illustrates another fact, viz: that it is much easier for some men *to preach than to practice.*

Scientific men have done much to exhume the dental profession from a state of ignorance, scarcely paralleled by any other trade or calling. But all theory fails when it results in no benefit to the public. It is an easy matter to theorize upon the practicability of flying through the air with the rapidity of a bird on wing, or of the great utility of a perpetual motion, and it appears to many perfectly feasible; but of what benefit are these speculations to mankind?

Newton, Franklin, Fulton, and a thousand others of equal note, each in their day, were consummate theorists, and each in turn were saddled with the opprobrium of visionary. But the world has been no less astonished than benefited, by practical results drawn from the fountain of knowledge.

The practical Hercules in the dental profession, is the great philanthropist of the age. The young lean upon him with confiding trust, for their present and future health, happiness, and for personal charms. The aged are indebted to him for much of the comfort that remains to them.

The dental profession is born in practice more than any other, and survives only by practice. It admits of no relaxation. The practiced hand becomes a stranger to its art by diversion.

A grand flourish of technicals, with the addition of a borrowed title, as disgraceful to the claimer, as to the august body which gave it, has consigned many poor victims to a

life of wretchedness, known only to those whose comfort and brightest hopes have been crushed by the mal-practice of these inhuman monsters.

In illustration I will cite a case, that can be referred to when necessary.

Miss M——, daughter of Lieut. M——, of the U. S. A., was placed in the hands of a dentist in this city, to have her front teeth filled. He filled them several times in the course of three years, but the fillings would not “stick,” and at the end of that time he was obliged to paralyze the nerves of four of her front teeth. He filled them several times subsequently with no better success; finally he became tired of these gratuitous operations, and refused to attempt further to save them by filling with gold, but promised her if she would call once a month, that he would fill them with *white wax*. The teeth are now permanently filled, though their beauty is destroyed.

What fond anticipations have been crushed by this monster of a dentist! Who can imagine the feelings of a parent at a loss so overwhelming, and so irreparable? And yet his *honorably* obtained, high sounding title, with a little extra flourish of his dental lore, satisfies his friends, silences his enemies, and shields him from a just retribution; and on he goes to the next victim to his audacity.

Such scenes are of almost daily occurrence, and yet the humbugged public swallow the catastrophe as though it was a mere joke.

Neither position, nor honorable title, is satisfactory evidence of profound knowledge, or of consummate skill, in the dental profession. It may be asked why such villainy is not exposed, and the public thereby protected, by those who are acquainted with these facts, and whose duty it is to do it. The answer is plain. Kings have been assassinated by miscreants whose only object was public notoriety. So these impostors and charlatans challenge exposure, for the notoriety and the benefit of crying persecutions.

The fault of imposition and empiricism is not alone confined to the profession. The tendency of the public to *imbibe* every new theory upon the mere *say so* of some visionary dreamer, is proverbial. Change is sought after in Church, as well as in State, in politics as well as in religion; and however absurd the proposition, the credulous public are always ready to embrace it. The Churches, in their multitudinous tenets, are the promulgators of more ridiculous humbugs, perhaps, than any other portion of the community. The clergy usually take the first pill, probably at a discount, and if the discovery is made by a good brother in *our* particular faith, the effect is most salutary. From this respectable head, the influence descends to the vestry, and from thence to the laity, and so on down to the Church sewing society; and here, in fact, is the fulcrum that moves the whole popular current.

All subjects are here freely discussed, excepting that most appropriate to the occasion. Matrimony is usually the leading topic. From this stand-point the subject diverges into all sorts of ridiculous peradventure.

These Societies are the mouth-pieces of the Church. Not a kitchen or parlor escapes their surveillance. Without a shade of testimony, positive construction is put upon all acts, words, and thoughts, that do not chime in with this delectable clique. The seeds of slander, sown in a pious way, thro the operation of this humane institution, spring up in a thousand places, and in ten thousand forms; with an additional ten thousand constructions, carrying all before them into the labyrinth of doubt and mystery.

Physicians, Judges, and Lawyers are easily ensnared by this gullible influence. They are influenced to approve or condemn, without a solitary fact to base their decisions upon, other than brother Zebedee's information. Letters of introduction or recommendation are obtained to establish confidence, and to secure the patronage of most valued and esteemed friends; and this, too, by impostors, whose ignorance is only known by acquaintance, and whose villainy is only

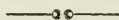
appreciated by contact. These monsters have no habitation. Their very subsistence depends upon the credulity and gullibility of strangers. They migrate from place to place, carrying the confidence of friend to friend, in order to promote individual interest through the basest empiricism, and at the greatest personal sacrifice.

The people judge honestly of the whole profession in consequence of the numerous victims to this nefarious practice. But this mode of establishing confidence for stipend, is not confined to town or country. These *gentlemen* (Heaven save the mark!) inhabit cities, and here they find a rich harvest. Their sins are hidden, or covered through the instrumentality of Church vows and Church influence—through the aid and sympathy of social societies and fraternal relations, or through the power and efficacy of individual friendship. Truth, self-respect, and even the solemnity of an oath—all are profaned and sacrificed to the one paramount object, *self-interest*; or what is equally humiliating and degrading, self-aggrandizement. This is the sole motive power, to which everything holy or noble in the character of man must be made subservient.

The physician is called to the sick friend, with strong reliance in his skill and judgment. The friend dies, but he has the happy consolation of having done his duty. In case of failure, the dentist can find no such consolation. He is called to administer to organs over which judgment and skill can, under ordinary circumstances, triumph. These organs are as valuable to the prospects, hopes and happiness of his patient as life itself, for without them, all but life would be sacrificed. What, then, is his crime if he fails, and what should be his penalty?

In this exordium I do not wish to be considered censorious in any manner to the better informed on this subject. My object is to show the necessity of popular information, adapted to every capacity of intellect, in order that the evils may be corrected, that are now indiscriminately and unjustly

charged upon the "just as well as the unjust," and that the public generally may understand the diagnosis of dental diseases and of dental manipulation sufficiently to protect their children and friends against a loss cruel and irretrievable. You may hear from me again.



A CRITIC CRITICISED.

A HASTY reading of Dr. White's onslaught upon Taft's Operative Dentistry, in the September number of the Dental Cosmos, fetches up the adage, that those who live in glass houses, should not throw stones. I do not know how friend White may take it, but I feel called to say to him, in all kindness, that verbal criticism is a ticklish undertaking. He who criticises style, must do it in style, or provoke comparisons; and such "comparisons are odorous," always. Dr. White may be scientific, possibly; but probably he is not rhetorical—may be, not even grammatical; and so, it might have been more modest for him to have kept to the doctrine of Taft's book, and left the diction to speak for itself. Such is my feeble way of thinking; and I hope I may strengthen it by citations from Dr. White's article. Take, for instance, the beginning of the first paragraph:

"For want of space, we were obliged to defer further reference to this work in our last issue: nor would we do so now," etc.

Do what? Do further reference? Let us see: "nor would we do further reference now." Scarcely. Well, then, does "do" stand for "defer?" Give it a fair trial: "nor would we defer so now." Nonsense. Do what, Dr. White? Do tell!

The second paragraph opens as follows:

"The principle in the article on *Irregularity* has been carefully observed that, if we can not teach properly, it is better not to teach at all."

As a model of "perfect looseness," the sentence is all that heart could desire. With careful study, the fragments of sense may be gathered up, and stuck together thus:

"In the article on *Irregularity*, the principle that, if we can not teach properly, it is better not to teach at all, has been carefully observed."

I guess that is what the Doctor meant to say. But the next sentence can not be guessed into shape; the deformity is inherent and essential:

"If irregularity of the teeth is not a part of operative dentistry, it ought not to have been referred to in the work."

Now, it may be kind to inform critical editor of Cosmos (Dental as aforesaid) that "irregularity of the teeth is not a part of operative dentistry," nor, indeed, of any other branch of dentistry; though treatment of irregularity is. Perhaps "irregularity of the teeth is not a part of" the mouth; but it is that, if it is a part at all.

Omitting minor errors in this paragraph, such as a misuse of the subjunctive mood, a repetition of the phrase "most important" three times in six lines, a misapplication of prepositions, and the like, let us pause upon the following sublime grammar:

"To have referred to it at all by the author, it placed him under obligations to do so properly."

Is comment necessary? Not to readers of the Register, certainly; but, since I am writing mainly for the instruction of Dr. White, it is well to remark to him that the language, to be made at all passable, must be changed thus much, at least:

"For the author to have referred to it at all, placed him under obligations to have done so properly."

But our critic's rhetoric is worse than his grammar, if possible. For example, he speaks of "the old and false doctrine advanced as the principal cause of irregularity." A *doctrine* the *cause* of irregularity! Go to.

In the fourth paragraph, we find "another physiological fact," brought out in our italics as follows:

"The disproportion between the size of the *teeth* and the *jaws*, during the period of *their* eruption, is in many cases very great."

But could the Doctor inform us what is the period of the jaws' eruption?

Yet again, in the same paragraph, science is thus enriched:

"Teeth which are irregular during that time, usually correct themselves, when this disproportion exists; but when one tooth is in or outside of the arch, it [the tooth?] is another thing, and in such cases it is not always for want of room," [that it is another thing?]

But, as already intimated, our critic is keen upon words. Hear him:

"The author says that 'the teeth most liable to be out of position are the cuspidate,' (*cuspidati* is doubtless meant.)"

"*Cuspidati* is doubtless meant; and so, when one says good night, *bonam noctem* "is doubtless meant;" but it is only a pedantic fool that expresses himself in such a manner. *Cuspidate* is a legitimate English adjective, and, in the construction referred to, there is an ellipsis after it of the word *teeth*. Dr. Taft deserves praise for having thus always preferred native terms to foreign ones, wherever the idea could be conveyed just as well. It is a mark of sound sense and of sound scholarship.

Furthermore, critic attempts to be pointed with two exclamation-points, quoting from Taft in this wise:

"In irregular teeth, parts are approximated, that nature did not intend should be brought together [!]"

We are not clear what point critic may be aiming at, but presume he means to insist that nature intends all irregularities that exist. But he forgets that the word *nature*, without a qualifier, implies nature without a perversion.

Critic goes on to inform us that he has "not made a relative statistic" Well, we trust that, when he does make one, he will favor friends with a sight of it.

But see here again how he criticises rhetoric :

“ We have seldom observed a series of reasons advanced, accounting for or explaining an affection, so indefinite and jumbled-up, as are contained under this heading.”

Notice the rare elegance of that sentence—only it has “an affection so indefinite and jumbled-up,” as to be utterly incurable.

But, speaking of affection, witness how our rhetorical critic sets a mouse-trap for the phrase, “death of the part affected,” by asserting that, “when a part is dead, it ceases to be affected.” Now, for the conclusion of this grammar lesson to-day, we inform him that *affected* is the perfect participle of the verb *affect* ; that the perfect participle implies past time ; and that therefore “part affected” signifies “part that was affected ;” but that, when a thing is dead, it does not cease to be affected : it *has ceased* to be affected—except as a dead thing.

Finally, we may say of J. D. W.’s criticism, in J. D. W.’s own language, that “there are a good many interesting ideas contained in the article above referred to,”—interesting for the manner in which they are expressed ; and we confidently count on gratitude of Cosmos for having called attention to them. Cosmos is under no obligations, however ; our labor is a labor of love, and we shall take pleasure in rendering any future services that its necessities may seem to require.

C.

Popular Medical Jurisprudence.—The following verdict of a coroner’s jury is said to have been recently rendered :

“We find that Mr. Fink died of a natural death produced by dyspepsy, owing to clams for dinner, and cholera morbus in the evening.”

It had better read—*clams for dinner, and cholera morbus for supper !*

PROCEEDINGS OF SOCIETIES.

PROCEEDINGS OF THE AMERICAN DENTAL ASSOCIATION.

THE delegates of the various local dental Associations and Colleges met according to adjournment, in the Smithsonian Institute, in Washington City, D. C., at 12 o'clock, M., July 31, 1860.

The President, Dr. W. W. Allport, on taking the chair, made the following remarks :

GENTLEMEN :—Something over a year ago it was proposed by several eminent practitioners of Dental Surgery, that the interests of our profession would be promoted by the formation of a National Dental Association upon a representative basis. To ascertain the opinion of some of the leading Dentists in this country as to the expediency of forming such an association, a memorial was sent to several of our principal cities, for the signatures of those who approved the formation of the proposed association.

The memorial referred to reads as follows :

The undersigned practitioners of Dentistry, believing that a National Association of Dentists, composed of delegates from State, county and local Societies and dental Colleges, would be calculated to promote the best interests of the profession, respectfully suggest to the Dental Societies and Colleges throughout the country, the propriety of electing delegates to meet in Convention at the Falls of Niagara on the first Wednesday of August, 1859, for the purpose of forming, if the assembled delegates shall deem it expedient, a National Association upon a representative basis.

In a few weeks there were names enough attached to this memorial to warrant its publication in the journals of the profession. In compliance with it, two of the Dental Colleges,

and the Societies then existing, elected delegates, to meet in Convention, for the object, and at the time and place proposed. At the appointed time, the delegates met, but after mature deliberation, it was concluded that it would be better to postpone the final action in regard to the matter for one year.

A Constitution, however, was drawn up, and has been published in our Dental Journals, which is now to be submitted to you for your consideration.

By some, it may be supposed that it is the wish of the committee who submitted this Constitution, that it be adopted at the present time, without any *material* change, *volens volens*. I have reason to believe that this is not the case, but that it is the desire of the committee that every section of it be carefully and thoroughly discussed, without fear or favor, and that it be adopted, wholly or in part, or rejected entirely and a new one substituted in its stead, as it may seem to you the best calculated to promote the interests of the profession.

Trusting that the Chair may receive your kind and cordial support, without which our labors would result in discord and unprofitableness, and hoping that a spirit of trust and harmony may pervade all our deliberations, and guide us to fortunate results therein, we will now proceed to the business for which we are assembled.

The Minutes of the preliminary meeting were read, amended and approved.

On motion of Dr. Barker,

Resolved, That a committee of five be appointed to examine and report on credentials.

The Chair appointed upon that committee, Drs. Geo. T. Barker, F. Y. Clark, C. P. Fitch, A. Blake, P. G. C. Hunt.

On motion, adjourned to meet at 4 o'clock, P. M.

4 O'CLOCK, P. M.

The Association met according to adjournment.

The Committee on Credentials made the following report :

GENTLEMEN :—The Committee on Credentials respectfully report, that upon examination, the following gentlemen were duly elected delegates to this Convention :

Washington City Dental Association.—Drs. J. B. Gibbs and H. W. Wadsworth.

Georgia Dental Association, Savannah.—Dr. F. Y. Clark.

Cincinnati Dental Association.—Drs. J. Taft and H. R. Smith.

Mad River Valley Dental Society.—Dr. Wm. A. Pease.

Pennsylvania Association of Dental Surgeons.—Drs. S. Dillingham, J. H. McQuillen, J. Foster Flagg, C. P. Fitch, J. W. Van Osten, J. McFarland, B. M. Gildea and Geo. T. Barker.

Pennsylvania College of Dental Surgery.—Dr. J. L. Sueserott.

Western Dental Society.—Drs. W. W. Allport and A. Blake.

Indiana State Dental Association.—Drs. P. G. C. Hunt and S. B. Smith.

Kentucky State Dental Association.—Drs. W. M. Rogers and A. S. Talbert.

Mississippi Valley Dental Association.—Dr. W. H. Atkinson.

Michigan Dental Association.—Dr. Wm. Cahoon.

GEO. T. BARKER,

C. P. FITCH,

AARON BLAKE,

P. G. C. HUNT,

F. Y. CLARK,

Committee on Credentials.

The Committee appointed to prepare a draft of a Constitution was called upon, and made a report in accordance with their appointment.

On motion,

Resolved, That the draft of a Constitution presented by the committee be accepted, and the committee discharged.

Resolved, That the Constitution be taken up article by article, seriatim, considered, and disposed of.

After being duly considered and amended, it was adopted, and is as follows :

CONSTITUTION.

ARTICLE I.—NAME.

This organization shall be known by the name of the *American Dental Association*.

ARTICLE II.—OBJECTS.

The objects of this Association shall be, to cultivate the science and art of dentistry, and all its collateral branches, to elevate and sustain the professional character of dentists, to promote among them mutual improvement, social intercourse, and good feeling, and to collectively represent and have cognizance of the common interests of the dental profession in every part of the United States.

ARTICLE III.—MEMBERS.

SECTION I.—The members of this Association shall be exclusively practitioners of dentistry, holding their appointment to membership either as delegates from local institutions, or as permanent members.

SEC. II.—The delegates shall receive their appointment from permanently organized dental societies and dental colleges in the Union, each delegate holding his appointment for one year.

SEC. III.—Each local society shall be entitled to send to the Association, one delegate for every five of its active members, and the faculty of each college to send one of its members as a representative.

SEC. IV.—The permanent members shall consist of all those who have served in the capacity of delegates. Each delegate and permanent member shall be entitled to debate and vote on all questions, and be eligible to any office in the gift of the Association.

SEC. V.—To defray the expense of printing the Transactions, and to meet other incidental expenses, the sum of two dollars shall be assessed annually upon all the members present at meetings of the Association. No member who is not present at a meeting of the Association shall be required to pay the annual assessment.

SEC. VI.—Each member elect, prior to the permanent organization of the annual meeting, or before voting on any question after the meeting has been organized, must sign these regulations, inscribing his name in full, specifying in what capacity he attends, and if a delegate, the title of the institution from which he has received his appointment.

SEC. VII.—No one shall be permitted to address the association before giving his name and residence, which shall be distinctly announced from the chair.

ARTICLE IV.—MEETINGS.

The regular meetings of the Association shall be held annually, and commence on the last Tuesday in July. The place of meeting shall be determined each year by vote of the association.

ARTICLE V.—OFFICERS.

SEC. 1.—The officers of the Association shall be a President, two Vice-Presidents, Corresponding Secretary, Recording Secretary, and a Treasurer. Two or more nominees for each office shall be presented by a special committee of one from each delegation, and shall be voted for separately by ballot, a plurality of votes being necessary for an election. Each officer shall hold his appointment for one year, and until another is elected to succeed him.

SEC. 2.—The President shall preside at the meetings, and perform all the duties that custom or parliamentary usage may require.

SEC. 3.—*The Vice-President.* In the absence of the President, one of the Vice-Presidents shall assume all the duties of the office; and in the absence of these officers, a chairman *pro tem.* shall be appointed *viva voce.*

SEC. 4.—The *Corresponding Secretary* shall attend to the correspondence with the Association, and give due notice of the time and place of each annual meeting.

SEC. 5.—The *Recording Secretary* shall keep accurate minutes of the proceedings of the Association, preserve the archives and unpublished transactions, and attend to all other duties that appertain to the office.

ARTICLE VI.—STANDING COMMITTEES.

SEC. 1.—The following Standing Committees shall be organized at every annual meeting, to prepare, arrange and expedite business for each ensuing year, and to carry into effect the orders of the Association, not otherwise assigned, namely: a Committee of Arrangements, of Publication, on Prize Essays, on Dental Physiology, on Dental Chemistry, on Dental Pathology and Surgery, on Mechanical Dentistry, Dental Education, and Dental Literature.

SEC. 1.—The *Committee of Arrangements* shall be composed of three members, one of whom, if practicable, shall reside in the place at which the Association is to hold its next ensuing annual meeting. They shall be required to procure suitable accommodations for the meeting; to verify and report upon the credentials of membership; to receive and announce all essays and memoirs voluntarily communicated, either by members of the Association, or by others through them; and to select and announce, at the earliest period practicable after their appointment, subjects for discussion at the succeeding annual meeting.

SEC. 2.—The *Committee of Publication* shall consist of five members, of which the *Corresponding Secretary*, and *Treasurer* must constitute a part. They shall be authorized to employ a competent reporter to furnish an accurate report of the proceedings of each meeting. They shall superintend the publication and distribution of such portions of the Transactions as the Association may direct. This Committee shall audit the accounts of the Treasurer, and present a

statement of the same in the annual report of the Committee, which report shall specify the character and cost of the publications of the Association during the year; the number of copies still at the disposal of the meeting, and the funds on hand for further operations. The Committee shall be instructed to print, at the beginning of each volume of the Transactions, the following disclaimer, viz: "The American Dental Association, although formally accepting and publishing the report of the various standing committees, and essays read before the Association, holds itself wholly irresponsible for the opinions, theories, or criticisms therein contained, except when so decided by special resolution."

SEC. 3.—The *Committee on Prize Essays* shall consist of five members. Two prizes, consisting of medals not exceeding in value fifty dollars each, may be awarded to the best two communications reported on favorably by the Committee, and directed by the Association to be published.

SEC. 4.—The *Committee on Dental Physiology, and Dental Chemistry* shall be composed of three members each. It shall be the duty of each Committee to present yearly reports in their special departments, embracing, if practicable, the results of original investigations.

SEC. 5.—The *Committee on Dental Pathology and Surgery*, consisting of five members, shall have under consideration every thing that appertains to pathological conditions of the teeth and adjacent tissues, and the remedial agencies embraced under the head of operative dentistry. Improvements in the latter department, if expedient, shall be thoroughly tested, and reported on before the Association by this Committee.

SEC. 6.—The *Committee on Mechanical Dentistry* shall consist of five members, who shall receive and take cognizance of plans, improvements and specimens in this department, that may be presented by persons desiring to bring them before the Association. The Committee shall be authorized to reject those they may deem unworthy of presentation.

SEC. 7.—The *Committee on Dental Education, and Dental Literature*, consisting each of three members, shall make annual reports on these important subjects. The selection of the chairman and members of the different committees, shall be referred to the nominating committee.

ARTICLE VII.—AMENDMENTS.

These articles may be altered and amended with the consent of three-fourths of the members present, at the subsequent annual meeting to that at which such amendment or alteration may have been proposed.

THE ORDER OF BUSINESS.

The order of business at the annual meeting of the American Dental Association, shall at all times be subject to the vote of three-fourths of all the members in attendance; and until permanently altered, except when for a time suspended, it shall be as follows, viz :

1. The temporary organization of the meeting, preparatory to the election of officers.
2. The report of the Committee of Arrangements, on the credentials of members.
3. The calling of the roll.
4. The reading of minutes.
5. The election of officers.
6. The reception of members not present at the opening of the meeting, and the reading of notes from absentees.
7. The reading and consideration of the stated annual reports from the standing committees.
8. The reading of essays.
9. The discussion of topics selected for the session.
10. The selection of the place of next annual meeting.
11. The appointment of standing committees.
12. Resolutions, introducing new business, and instructions to the permanent committees.
13. Unfinished and miscellaneous business.
14. Adjournments.

During the discussions upon the Constitution, a paper from the St. Louis Dental Association, containing some suggestions in regard to the Constitution, was offered by Dr. Blake. That Association having no delegate present, it was concluded to hear the suggestions; the paper was read by Dr. Blake.

Adjourned to meet to-morrow, at 10 o'clock, A. M.

WEDNESDAY, AUG. 1.—10 O'CLOCK, A. M.

The Association met according to adjournment.

The record of the proceedings of yesterday was read and adopted.

On motion of Dr. H. R. Smith,

Resolved, That this Association extend an invitation to members of the profession and others of Washington City, who may desire to be present during the deliberations.

On motion,

Resolved, That the Association now proceed to the election of officers for the ensuing year.

On motion of Dr. M'Quillen,

Resolved, That we now take a recess of fifteen minutes, that the various delegations may each select their member of the Nominating Committee.

On call, the following persons were found to constitute that committee, viz:

Drs. J. B. Gibbs, Washington City Dental Association; F. Y. Clark, Georgia Dental Association, Savannah; H. R. Smith, Cincinnati Dental Society; Wm. A. Pease, Mad River Valley Dental Association; J. F. Flagg, Penn. Association of Dental Surgeons; J. L. Suesserott, Penn. College of Dental Surgery; A. Blake, Western Dental Society; P. G. C. Hunt, Indiana State Dental Association; W. Muir Rogers, Kentucky State Dental Association; W. H. Atkinson, Mississippi Valley Dental Association.

The committee retired, and after due consultation and deliberation, made the following report:

Your committee would report that the following nominations have been made, viz :

Dr. W. H. ATKINSON, *President.*

“ J. B. GIBBS, *1st Vice President.*

“ W. CAHOON, *2d* “

“ J. TAFT, *Recording Secretary.*

“ W. MUIR ROGERS, *Corresponding Secretary.*

“ S. DILLINGHAM, *Treasurer.*

On motion,

Resolved, That a vote now be taken on the nominees presented by the committee.

Which being done, the nominees were found to be duly elected.

On motion,

Resolved, That the nomination and election of the various standing committees be postponed till the afternoon session.

The President appointed Drs. Rogers and McQuillen to conduct the President elect to the chair.

On motion of Dr. Fitch,

Resolved, That we reconsider the resolution adopting the Constitution.

Resolved, That the fifth section of the Constitution be amended to read as follows : The officers of this Association shall be a President, two Vice Presidents, Corresponding Secretary, Recording Secretary, and Treasurer. Two or more nominees for each office shall be presented by the nominating committee ; said committee shall consist of one member from each delegation, and shall be voted for separately by ballot ; a plurality of votes being necessary for an election.

Adjourned to meet at 4 o'clock, P. M.

4 O'CLOCK, P. M.

The Association met according to adjournment. The President in the chair.

The Minutes of the morning session were read and adopted.

On motion,

Resolved, That the thanks of the Association be tendered

to Dr. W. W. Allport, as a testimonial of its appreciation of the able manner in which he has discharged his duties as President of this Association.

Resolved, That the Secretary be instructed to procure two books, one for the Constitution, By-laws, and signatures of the members; and one for the records of the Association.

On motion,

Resolved, That the Secretary be empowered to employ a competent person to transcribe the Constitution, as adopted, into a book suitable for the purpose, that the members may have an opportunity to sign the same.

On motion of Dr. Cahoon,

Resolved, That a committee of three be appointed to draft a Code of By-Laws for this Association.

The President appointed for this committee Drs. Cahoon, Allport and Suesserott.

The committee were requested to report at the earliest practicable period.

A paper from Dr. A. M. Moore, of Indiana, was received, read and ordered to be placed on file; and the thanks of the Association were tendered to Dr. Moore for his suggestions.

A paper was read by Dr. A. Blake, giving a history of the formation of the Western Dental Association, which was ordered to be placed on file.

On motion of Dr. W. M. Rogers,

Resolved, That this Association recommend to all dental practitioners throughout the Union the propriety of urging all students under their tuition to prosecute a Collegiate Dental education. Also, that we feel the importance and necessity of a high standard of literary and scientific attainments by the dental students.

A very spirited discussion arose upon this resolution, which elicited the free expression of opinion from all the members present.

Adjourned to 9 o'clock, A. M., to-morrow.

THIRD DAY.—9 O'CLOCK, A. M.

The Association met according to adjournment; the Minutes of the last session were read and approved.

The reading of essays being now in order,

Dr. J. F. FLAGG read a paper on the claims of dentistry on dentists. It was received and ordered to be placed in the hands of the publishing committee.

Dr. FITCH presented and read a paper on extraction of the teeth, which was received and ordered to be placed in the hands of the publishing committee.

Dr. GEO. F. BARKER presented and read a paper upon the demands of the dental profession. It was also received and placed in the hands of the publishing committee.

Dr. TAFT read a paper upon the buccal secretions. It was also ordered to be placed in the hands of the publishing committee.

Dr. M'QUILLEN presented and delivered a synopsis of a of a paper upon the anatomy, physiology, pathology and remedial treatment of the fifth pair of nerves. Illustrations were given from a fine model.

The Committee on By-Laws was called upon, and made the following report :

Your committee would most respectfully submit the following By-Laws for your consideration, viz :

BY-LAWS.

I. OF THE PRESIDENT.

The President shall preside at all meetings, keep order, state and put questions, regulate debates, and sign all orders on the Treasurer, duly passed by the society. He shall not discuss any question while in the chair, unless it be a question of order. He shall have no vote, except when his vote may be necessary to decide a question upon a call of yeas and nays, or upon a ballot, except in the ballot for officers.

II. OF MEMBERS.

Each delegate, prior to being considered a member of this Association, shall sign the Constitution and pay the annual assessment.

III. CONDUCT OF MEMBERS.

Any act of special immorality or unprofessional conduct, committed by a member of this Association, shall be referred to the Committee of Arrangements, whose duty it shall be to thoroughly examine into the case and report at the next meeting, if the charges be sustained. Whereupon, by vote, the offending member may be reprimanded or expelled, a two-thirds vote being required for expulsion, a plurality being sufficient for reprimand.

IV. DEBATE.

No member shall be permitted to address the chair more than twice upon the same subject,—nor shall he consume more than fifteen minutes, unless by consent of the Association.

ADDITIONS TO BY-LAWS.

These ByLaws may be amended or added to by a vote of two-thirds of the members present at any regular meeting.

In acknowledgement of having adopted the foregoing propositions, and of our willingness to abide by them, and use our endcavors to carry into effect the objects of this Association, as above set forth, we have hereunto set our names :

S. Dillingham, J. H. McQuillen, C. P. Fitch, Geo. T. Barker, J. Foster Flagg, J. W. Van Osten, Philadelphia, Penn. Dental Association.

Danl. McFarlan, Washington City, Pa. Dental Association.

B. M. Gildea, Harrisburg, Penn. Dental Association.

J. L. Suesserott, Penn. Dental Association.

Wm. Cahoon, Detroit, Mich. Dental Association.

A. S. Talbert, Lexington, Ky., Kentucky State Dental Association.

W. M. Rogers, Shelbyville, Ky., Kentucky State Dental Association.

F. Y. Clarke, Savannah, Ga., Georgia State Dental Society.

W. A. Pease, Dayton, O., Mad River Valley Dental Association.

A. Blake, St. Louis, Mo., Western Dental Society.

J. Taft, H. R. Smith, Cincinnati, O., Cincinnati Dental Society.

W. H. Atkinson, Cleveland, O., Miss. Valley Association.

J. B. Gibbs, H. N. Wadsworth, Washington, D. C., Washington Dental Association.

W. W. Allport, Chicago, Ill., Western Dental Society.

P. G. C. Hunt, S. B. Smith, Terre Haute, Ind., Indiana State Dental Association.

On motion of Dr. Allport,

Resolved, That the American Dental Association most respectfully recommend to our Dental Colleges the necessity of being more particular in requiring of their matriculants a higher order of general literary and scientific education; and the strictest enforcement of their standard requirements for graduation.

On motion of Dr. Van Osten,

Resolved, That a committee of three be appointed to confer with dental practitioners throughout the Union, with a view to the formation of local Societies, and to report to this Association, at its next stated meeting.

The Chair appointed upon that committee, Drs. Van Osten, Allport and Rogers.

Adjourned to 4 o'clock, P. M.

4 O'CLOCK, P. M.

Association met according to adjournment. The members signed the Constitution and paid dues.

The Committee on Nominations made the following report:

Committee of Arrangements—Drs. Cahoon, Atkinson and Fitch.

Committee on Publication—Drs. Taft, Rogers, Allport, Dillingham and Van Osten.

Committee on Prize Essays—Drs. Hunt, Gildea, Clark, Rogers and Suesserott.

Committee on Dental Physiology—Drs. M'Quillen, Barker and M'Farlan.

Committee on Dental Pathology and Surgery—Drs. Suesse-rott, Atkinson, Flagg, Hunt and Allport.

Committee on Mechanical Dentistry—Drs. S. B. Smith, Blake, Talbert, Dillingham and Wordsworth.

Committee on Dental Education—Drs. Rogers, Fitch and Hunt.

Committee on Dental Literature—Drs. Barker, Gibbs and Taft.

Committee on Dental Chemistry—Drs. Pease, Taft and Van Osten.

These nominations were confirmed by the Association.

On motion,

Resolved That the next annual meeting of the American Dental Association be held in the City of Cleveland, Ohio.

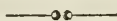
Prof. BRAINARD, of Cleveland, Ohio, was introduced to the Association, and made some very interesting remarks upon Chemistry as connected with the teeth.

On motion,

Resolved, That the thanks of the Association be tendered to the Regents of the Smithsonian Institute; and that the Recording Secretary be instructed to pay the Janitor's fees, and any other indebtedness that may have accrued in taking care of the Hall during the sessions of this Association.

Adjourned to meet in the City of Cleveland, Ohio, on the last Tuesday of July, 1861, at 10 o'clock, A. M.

J. TAFT, *Sec'y.*



CINCINNATI, Tuesday Evening, Sept. 11, 1860.

Local Dental Association met pursuant to adjournment, at the office of Drs. Bonsall & Smith. Members present—Drs. Taft, Foote, Bonsall, Wells, Davenport, Wheeler, and H. A. Smith.

Minutes of last meeting read and approved.

Dr. Foote read an Essay—Subject: Dental Associations.

Dr. Richardson's appointment as Essayist was continued.

This being the regular evening for election of officers, the following gentlemen were elected to the respective offices, viz :

President—H. A. SMITH.

Vice President—B. D. WHEELER.

Recording Secretary—T. F. DAVENPORT.

Corresponding Secretary—J. TAFT.

Treasurer—CHAS. BONSALE.

Publishing Committee—Drs. Richardson, Davenport and Wheeler.

Dr. Taft, the retiring President, read a paper, after which, Dr. Smith, President elect, took the chair.

Dr. Wheeler was appointed Essayist for the next meeting, in connection with Dr. Richardson, continued.

Subject for discussion at next meeting—*Tooth-ache*.

Adjourned to meet at Dr. Davenport's office on the second Tuesday in October. T. F. DAVENPORT, *Rec. Sec'y*.

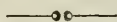
Selections.

Salivary Calculus.—J. H., aged 48 years, of spare habit and slender constitution, some fourteen years since was seized with a severe pain under the left side of his tongue. He applied to his family physician, who could give him no satisfactory information as to the cause or nature of his complaint; neither could he afford him any relief. He was induced to consult other physicians in his vicinity, and he did so with like results. In the mean time, a small tumor made its appearance on the under side of his tongue, near or at the seat of pain. He went to Boston and consulted the late Dr. —, who informed him that his disease was cancer, and gave him but little encouragement as to any permanent relief. He returned to his home, determined to abide the result of what he then supposed to be an incurable disease. From that time until about the first of February last, he has suffered paroxysms of severe and excruciating pain at different times

The tumor gradually increased in size, and the paroxysms of pain became more frequent, until it finally became inflamed, suppurated and burst, discharging a small quantity of pus and a calculus weighing fifteen grains, having the general appearances of ordinary renal or biliary calculi. He has since been entirely free from pain.—*Boston Med. and Surg. Journal.*

The Turkish Bath.—In these Turkish baths, soap and water are purely secondary agents; they are considered as barbarous, clumsy, and effete means of cleansing. The bather is first conducted into a room, which is practically a large oven, lighted from the top, and filled with moist air. This is very far, however, from being a vapor bath; the quantity of water-vapor is small, and does not affect the transpiration of water by the skin. Of course, a profuse sweating is induced, and the skin is thoroughly softened. It is a hot bath without water, or rather with the aid of very little water. From this chamber he passes to another—the calidarium—where, freely perspiring, he is rubbed with towels or goat's hair gloves; and so great is the effect of the prior treatment, that the softened cuticle rolls off in thick flakes, and a new skin is found beneath, of which the subject of the operation little dreamed. No one who takes a Turkish bath for the first time but must be astonished at the quantity of the unnecessary cuticle which he carries about with him. Adepts tell you that "it requires great dexterity to perform this well without rubbing some places too much, and others too little." Now comes a drenching with warm water and soap, which is not the most agreeable part of the bath, and may be considered partially unnecessary. Then the bather passes back to the tepidarium, where he is dried and clothed in warm towels; and, after a pause, thence to his frigidarium, or cool chamber, where, still clothed in warm towels, he sips coffee, smokes a narghilet, and indulges in beatific sensations which only those can know who have passed through the three purgatories of the bath. The Turkish bath is an agent of such great power in restoring the active functions of the skin, and the ordinary results of its application are so peculiarly agreeable and invigorating, that it will probably invite the attention of medical practitioners in its relations to disease. It is a powerful

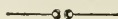
agent, of which the virtues are apparent; but incautiously employed by persons liable to congestion of the head or organs of the chest, it is not free from dangers, as some unfortunate circumstances have already proved.—*Lancet*.



DEVELOPMENT OF THE TEETH OF CATTLE, AND MODE OF ASCERTAINING THEIR AGE BY THE SAME.

Persons acquainted with the dentition of "neat stock," can form a pretty accurate idea of age, from the period of birth up to that of adult life; and this method of ascertaining the age of an animal is, probably, more correct than that which applies to *horns*; for by means of a rasp applied to the rings of the horns, any amount of imposition may be practiced, when it is well known that the same liberties are not to be taken with the teeth without the chances of discovery. It is possible that there may be some slight variations from the following rules, in the development of the teeth, yet such variations will not embrace a period of over a month or six weeks, which at maturity does not amount to much, and may be considered as purely accidental—out of the ordinary course of nature. The front teeth, or temporary incisors, are found in the lower jaw; there are eight of them, all prominent at the age of four weeks. The calf is usually born with three temporary grinders or molars; the fourth appears six months after birth; the fifth appears at the age of fifteen months; and the sixth is to be seen at the age of two and a half years; now, the animal has a "full mouth" of temporary teeth, numbering thirty-two. At this period a very remarkable change in the teeth is about to occur; the temporary ones, having answered the purposes for which they were intended, are to be removed in the following order, so as to give place to others which shall correspond to the increase in the size of the jaw bones, and proved as durable as other bones of the body. At the age of two years, the central or middle incisors (lower jaw) are shed and replaced by two permanent ones. At the age of three, the two incisors known as the inner middle, undergo the same process. At the age of four the outer middle are shed, and replaced by permanent teeth. At the age of five, the corner incisors are also transformed in the same manner,

and the animal has a full set (eight) of permanent front teeth. The first and second permanent molars, known as grinders, appear in the upper and lower jaws, on each side, at the age of two years; and at intervals of one year, the other four are successively cut; so that at the age of six years, the animal has a "full mouth" of permanent grinders.—*American Stock Journal*.



RETURN OF SENSIBILITY AFTER SECTION OF NERVES.

BY DR. LOTZBECK, OF TUBINGEN.

THE author has devoted himself to minute researches on the return of sensibility in five cases of the division of nerves, three of which belonged to the inferior maxillary, the other to the infraorbital. In four cases a portion of nerve more or less had been excised, and in one case simple section only was performed.

In all the cases the operation had been followed within the sphere of distribution of the divided nerve, by a diminution of, or total insensibility to touch, and the perception of temperature; this modification of sensibility has been complete, either immediately after the operation, or from twenty-four to forty-eight hours subsequently, or at most only twelve days.

The diminution of perception of temperature is sometimes proportioned to the abolition of tactile sensibility, and makes the same progress; sometimes it continues even when the tactile sensibility has already perceptibly diminished, and does not disappear entirely until a subsequent period.

The diminution of tactile sensibility is accompanied by the following particulars: the patients perceive more slowly and with less precision the part that is touched; besides, in order to produce a double impression, it is necessary that the two points of a compass, placed in contact with the skin, be farther separated than in the normal condition, and that the distance which it is necessary to leave between the two points be gradually increased.

In all the cases observed, a return of sensibility, more or less perceptible, has been verified. This phenomenon has, moreover, exhibited wide variations in the different cases;

this has been observed sometimes after some days, sometimes after the lapse of a much longer period; sensibility may be restored in the entire extent of the integument where it had disappeared, or only within circumscribed limits; sometimes it returns to its normal level, sometimes it remains weak.

The return of the perception of temperature proceeds generally, and with almost trifling variations *pari passu*, with the restitution of tactile sensibility; but in one case, this latter was almost restored to its normal state, while the perception of temperature was altogether absent.—*Deutsche Klinik; Gazette Hebdomadaire; New York Med. Press.*



NEW APPLICATION OF CHLOROFORM IN NEURALGIA AND IN CERTAIN RHEUMATIC COMPLAINTS.

During my residence at Singapore, East Indies, I was at one time in the habit of using liquor ammoniæ to produce an immediate blister, when instantaneous counter-irritation was thought necessary in certain cerebral affections, etc.—a piece of lint soaked in ammonia being applied to the part, and covered with oil-silk, when in a few minutes so much irritation was produced as to raise a blister. In administering chloroform to my patients, I noticed that their lips were often partially blistered by it; and recollecting the mode of using the ammonia, I thought of trying the chloroform in the same way, but found that neither oil-silk nor gutta percha tissue would answer. I then used a watch-glass to cover the lint soaked in it, and with the best effect.

The manner of application is to take a piece of lint, a little less in size than the watch-glass to be used (which need not be more than two inches in diameter), put it on the hollow side of the glass, pour on it a few drops of chloroform sufficient to saturate it, and then to apply it at once to the part affected, keeping the edges of the glass closely applied to the skin by covering it with the hand, for the purpose of keeping it in position, as well as of assisting the evaporation of the chloroform. This may be done from five to ten minutes, according to the amount of irritation wished for.

The patient during this time will complain of the gradual increase of a burning sensation (not so severe as that produced by a mustard sinapism), which reaches its height in five min-

utes, and then abates, but does not entirely disappear for more than ten minutes.

To ensure the full operation of the remedy, it is necessary that the watch-glass be rather concave, that it be closely applied to the skin, and that the hand applied over it be sensibly warm. The immediate effect of the application is to remove all local pain in neuralgia, and relieve that of rheumatism.

Its effects on the skin are first a reddening of the cutis, which in some cases is followed by desquamation of the cuticle; but this depends on the part to which it is applied, and also upon the susceptibility of the individual. In some cases, if the application is prolonged, a dark brown stain remains, even for a week or ten days, the same effect as sometimes follows the use of a mustard sinapism.

In Singapore I have used chloroform after this fashion in various neuralgias of the face, in inflammations of the eye and ear, in one case of angina pectoris, in several cases of neuralgia affecting the abdominal parietes, in lumbago, dysmenorrhœa, and in pain attending congestion of the ovary, etc.

Personally, I can testify to its great efficacy in two severe attacks of rheumatic inflammation of the eyes, in which the pain came on periodically about 3 A. M., with such severity that I thought the loss of sight itself would be preferable to its continuance. All other remedies, such as blisters, leeches, opium externally and internally, belladonna, etc., were of no avail in soothing the pain; water, almost boiling, applied by a sponge, giving only a little relief. I then thought of this use of chloroform, remembering how much it had benefited my patients in other similar affections. The first night, the application of it to the temple relieved the pain in ten minutes; on its return the next night, the application again relieved it; and four times only was it required to remove completely the local pain; allowing, in the meantime, constitutional remedies to produce their effect. Since my return to this country, I have recommended this remedy on several occasions to persons suffering from neuralgia of the face and head, and always with the same good effects as in India; and the other evening one of my domestics was quickly and effectually relieved by it of a painful spasmodic contraction of the platysma myoides muscle, which prevented her raising her head from the chest. The chloroform was applied as directed, with immediate benefit, and next morning she was quite well,

though in previous attacks several days elapsed before relief was obtained. I have mentioned this method to several medical men of this city, who have found it of great benefit; and that it may be more extensively known, is my reason for now bringing it before the profession.

Dr. Keiller mentioned that this plan had been tried with success in his wards.

Dr. Wright had used chloroform for similar purposes, by pouring it into a bottle containing blotting-paper, and applying it over the affected painful part. He has found it sometimes produce vesication, and leave a mark on the skin; but it had been effectual in removing pain.

Mr. Little has received the following letter from Dr. Sclanders, House Physician to Dr. Keiller in the Royal Infirmary:

ROYAL INFIRMARY, March 14, 1860.

MY DEAR SIR,—I have much pleasure in giving you the result of my experience in regard to the external application of chloroform in the way proposed by you. Soon after you made me aware of it, I saw a friend of mine, who suffered frequently from neuralgia of the left forehead. I proposed the remedy to him, and with the effect of immediately removing the pain. Owing to my having kept it too long applied, vesication ensued. Since then he has had no return.

I have since used it in several cases of neuralgia of the ovary and pleurodynia, as also in two cases of rheumatic pains in the joints, with marked benefit.

I am, yours truly,

ALEX. SCLANDERS.

DR. LITTLE.

[*Edinburgh Medical Journal.*]



The *Journal de Chimie Médicale* contains an account of the discovery of a new and powerful sedative in neuralgia, just discovered by Dr. Field. The substance used is nitrate of oxyde and glycile, and is obtained by treating glycerine at a low temperature with sulphuric or nitric acid. One drop mixed with ninety-nine drops of spirits of wine constitutes the first dilution. It has been tried upon animals and patients with remarkable effect. A case of neuralgia, in an old lady, which had resisted every known remedy, was completely cured by this new agent. It has also been tried in dental neuralgia with equal success.—*New York Daily Times.*

Editorial.

AMERICAN DENTAL ASSOCIATION.

THIS Society was organized, in Washington City, July 31st, 1860, by the adoption of the Constitution, published in our present issue. Upon the whole, the Association has made an encouraging start. Ten of the local and State Associations were fully or partially represented, and one of the Colleges. As a general rule, the new Societies were more promptly represented than the old. The Ohio Dental College Association, entitled to a large delegation, had no representative, while the Mississippi Valley Association had but one. The St. Louis Society, and the Faculty of the Ohio College, were also unrepresented. We are prepared to say, that the sparseness of Western delegates is to be attributed more to the place of meeting, than to a want of interest. The next meeting will be more nearly central ; and the result will be different. The Faculty of the Baltimore College was not represented, nor were the New York State, and New York City Societies. The City Society, as explained elsewhere, appears to be unfriendly to the movement. Why the others were not on hand, we are not able to say.

It can not be expected that a meeting for organization would be very interesting, or important to science, in its immediate results ; yet this constitutes at least a partial exception to the rule. To vary the exercises, some five essayists were appointed, at the preliminary meeting at Niagara, but one of whom responded. The rest of us ingloriously failed ; but, fortunately, several volunteers came to the rescue, and they, accordingly, have the thanks of at least one who was too negligent to respond to his appointment.

We stated above, that " the rest of us ingloriously failed ;" but this may not be strictly true. From the *Cosmos* we learn that " Dr. McQuillen presented an oral synopsis of a paper upon THE ANATOMY, PHYSIOLOGY, PATHOLOGY, AND REMEDIAL TREATMENT OF THE FIFTH PAIR OF NERVES." The papers *read* having been mentioned, in order, just previous to this, we are further told that, " On motion, the above papers were requested for publication. Copies being directed to be placed in the hands of the Committee

of Publication." From the New York Journal we learn the same in regard to the *synopsis*, and further, that "Dr. Barker moved that the paper be referred to the Committee of Publication; which was agreed to. Subsequently, however, Dr. McQuillen declined furnishing the essay, as he wished to publish it in the *Cosmos*."

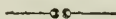
According to a natural inference from the *Cosmos*, there were but three failures among the appointed essayists. According to the Journal, there were three failures and a —. Dr. M. had an undoubted right to publish his article in the *Cosmos*; but why tease the Association with it? A boy would be considered boorish, who would tell his schoolmates that his satchel was full of sugar plums, but they shouldn't have any.

The Constitution, as adopted, is a good one. The original report was much improved by amendments. Even our correspondent, "E. T." will hardly complain. He should not, at any rate; for all his suggestions, but two or three, were carried out.

We expect great good from the Association. Its present Standing Committees are composed of working men. And when it comes to be understood that the annihilation of the "American Convention" is no part of its programme, the Association will, no doubt, count, among its friends, many who now stand aloof, through fear or jealousy of its influence on the former body.

We hope that local and State Societies will be organized all over the land, and that they will all be fully represented at Cleveland next July.

W.



THE MALLET—RUBBER WORK.

THE question is often asked, "do you use the mallet for filling teeth yet, and are you as much pleased with it now as at first?" to which we reply we do, and are still better pleased with it, the longer we use it. It is applicable in almost all cases; and there is not more than one case in twenty, in which we do not use it. Patients who have become accustomed to it, will not have fillings condensed in any other way. The great points are, the efficiency, and the ease, to the operator, with which the work is done.

We can now operate ten hours, with less fatigue than we could six, with hand pressure, and make more satisfactory work. None who properly test it, will give it up.

RUBBER WORK.—The question is also asked almost every day, "What about rubber work?" We have at different times expressed our opinion; but the desire is to know what developments time is making in regard to it. All those who are using the vulcanite process, have equal opportunities of testing its efficiency. In regard to durability, there are no new developments, that we know of. We have seen some cases which proved failures, after being worn for a while in the mouth; for instance, two or three pieces, after being worn a few months, became so friable, as to break as readily as a piece of thin porcelain; in other cases they were porous, and absorbed the fluids of the mouth, and became intolerably offensive, so that they had to be dispensed with. These may be difficulties that are dependent upon the manipulation, or upon the material; there is some of the rubber prepared by the Rubber Company, of a very inferior quality; whether it depends upon the imperfect preparation of the rubber, or a defect in the materials primarily, we do not know; but it would be very desirable to have a uniformly good article.

In regard to making the work, we think there is no economy, either in time, skill or labor, over other styles, if justice is done to the work.

T.



OHIO COLLEGE OF DENTAL SURGERY.

THE regular session of this institution will commence on the first Monday of November, and continue till the 20th of February next.

The arrangements are such as to give the most thorough instruction in each department. Arrangements have been made for illustrations and demonstrations with the microscope; a very fine instrument is at the disposal of the College, and the assistance of a good practical microscopist has been secured. There is a very large collection of anatomical, physiological and pathological preparations in the College; there is, indeed, everything in this way that could be desired. It is very important that all who design to attend should be in as early as possible.

T.

THE AMERICAN DENTAL CONVENTION.

THIS body has gone East. Indeed, it always had an inclination to do so. Its grandfather, the old American Society, came West once, and barely got home in time to die. And when he was all ready to die, he couldn't do it, till some of his western sons went and helped him to "kick the bucket." The Convention came West once. Not far West, either ; but it was so frightened that it sped back, stopped for breath at Niagara, hastened on to Saratoga, took a drink of Congress water, and is now on its way to New Haven, where we hope it will so far recover from its western fright as to venture a short distance from the eastern shore.

When the Convention met in Cincinnati, there were enough of western men present to have taken it, the next year, to St. Louis or Chicago. And if they had done so, there would have been a still greater preponderance of western members ; and they could have taken it to Leavenworth, and the next year, to Denver City. But our western brethren thought such a course would not be generous ; and they didn't do it. How much farther east are you going to take it, brethren ?

Personally, however, we care but little where it is ; but many worthy dentists in the West would like to attend its meetings ; but, while it is confined to the Atlantic shore, it is impracticable for most of them to do it. It was never expected that it would meet in the West as often as in the East ; but we think that one meeting in seven is hardly a fair divide. Why could it not meet in more accessible and central localities ?

W.



PASSAGE OF SERUM THROUGH DENTINE.

In an editorial in the last number of the Register, a suggestion of Dr. Allport is referred to, which is liable to be misunderstood. After the opinion that dentine may be easily prepared, so as to preclude the passage of any fluid through it, it is stated,—“This may be done by the application of creosote, or any similar oil, applied to the dentine, which it absorbs, till it becomes saturated, and this prevents the passage of any other fluid.”

Now, the mere absorption of creosote, to complete saturation, would not prevent the passage of another fluid, any more effectua-

ally than moistening with stagnant water would stop the leaks of a mill-dam. But when the chemical action of creosote is considered, in connection with its absorption, the force of the suggestion may be appreciated. Creosote is an acid, and forms insoluble, non-putrescent compounds with albuminous substances generally; and in this way it acts, in excluding other fluids. This is, evidently, Dr. Allport's idea. It is the one we have always maintained, and one to which we have frequently alluded. W.

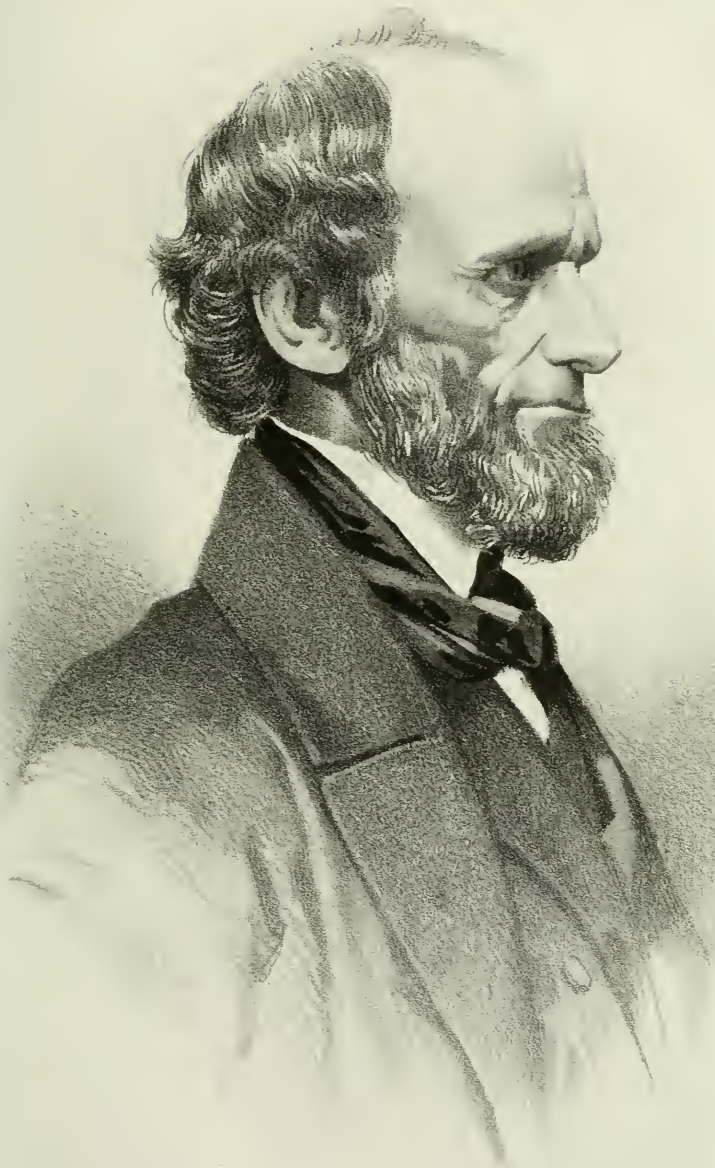
"DUTIES OF CHEMISTS."

UNDER the above title, "A. B.," of the American Dental Review, retreats from the bold position taken in the preceding number. He *Review*-ed it, and found it untenable. In answer to the charge of "designedly" misquoting the language of "our comrade," he attempts to make merry over his office arrangements.

But he wishes to be excused for "want of experience;" and we must excuse him. In fact, we do excuse him. But we hope it will not take a long experience to enable him to copy a man's remarks when they are in print.

After stating that his demand of "the professor of chemistry" was made with all due respect, which we believed all the time, he says: "But what we do dislike is, that Professors, when commenting on articles which are offered for practical use to the professional world, do not call them by their proper names, such as they would, most assuredly, give them, were they about to expatiate on the merits of the article before their class in College."

This is all very well. But if a sensible professor were about to expatiate on the merits of the article under consideration, he would, "most assuredly," call it "Roberts' Os-artificial," just as he would call a well known liquid, water, and not protoxyd of hydrogen. That the composition of the article was, in the main, pretty well known, was evidenced by A. B.'s familiarity with it. W.



A. Blakeley.

Middleton Strobidge & Co. Lith. Cir. O.

THE DENTAL REGISTER OF THE WEST.

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Original Essays and Communications.



THE PROVINCE OF THE DENTIST.

BY J. TAFT.

ALMOST every one, at the presentation of this subject, will say; I understand this perfectly, I know what my duty is as a dentist. Notwithstanding this assertion, are there not many cases in which none know exactly what should be done? Perhaps all know that filling, extracting and inserting teeth, come within the legitimate province of the dentist; but is the best course always clear, in the details of the different divisions? In regard to the natural teeth, every one understands that it is the business of the dentist to wrest the teeth from the ravages of disease, and restore them to future usefulness. But how this is to be done in all cases, and under all circumstances, is a point that it may not be amiss to consider

We will give an example, illustrating the principles we wish to present:

A patient presents himself with a set of teeth well organized; but by neglect they have become much decayed, though not so much so, but that they may be efficiently filled, and thus saved for future usefulness, if the patient keeps them in a proper condition; but without this, they would certainly not be saved.

What is the duty of the dentist in such a case? Is it simply to fill the teeth, and let the patient go without anything farther, or without any instructions? or is it to do just what the patient directs, and nothing more, or should he explain all the circumstances and conditions as perfectly as possible to the patient, and then pursue the course the patient directs, and if the patient does not choose to pursue a proper course, would it be best to refuse to do anything at all?

Now, we consider it proper and legitimate, under all ordinary circumstances, to give information to the patient, upon all understandable points. Care and discrimination, however, must be exercised in accomplishing this; it should in all cases be done in such a manner as to exclude even the appearance of sinister motives. This will in some cases be a very delicate matter, and there are some cases in which it is worse than useless to attempt to give any information in regard to the teeth.

In the case referred to, there is a diversity of opinion, in regard to what should be done. If the patient puts himself entirely in the hands of the operator, and says, "Now, do everything that the welfare of my teeth requires, and that in the best manner, and give me such directions as you think proper, and I will obey them,"—in cases of this kind, there would certainly be no controversy in regard to the course to be pursued; but this class of patients is not very large. If a patient presents himself, and says he has two teeth decayed and wishes them filled, and directs the operator to them, and there are two others decayed, of which the patient is ignorant, that require attention as much as the first, is it the duty of the operator to fill the teeth to which his attention was first directed, and refrain from notifying the patient of the condition of the others? The operator would certainly fail far short of his duty, and he should be held responsible for the loss of those teeth. The dentist here occupies just the position, and is involved in the same kind of responsibility, though it may be not to the same extent, as the physician, who, called to

treat a patient for a certain disease, finds another malady, of which neither the patient nor his friends were aware, equally as dangerous as the one of which they were cognizant, and as urgently requiring treatment, and refrains from acquainting them with the fact, and does not give them any treatment whatever. Every one can see that such a physician would be culpable, and no one would employ him a second time. No one would ever think of accusing him of sinister motives, for revealing the existence and danger of the hidden malady, no, not even were he to suggest immediate treatment.

We refer to this point in practice, because we have occasionally heard our professional brethren, and some of those occupying a high position too, make the declaration, that they never do anything more than they are requested by the patient to do in the outstart; that they never examine, nor refer to the other teeth, unless they are especially required to do so. Now, we consider it either a false delicacy or foolish dignity that prompts to this course. The presumption should always be where a patient presents himself with diseased teeth, that he comes to be restored to health, at least so far as the special malady is concerned, unless he expresses the desire that only so much as he describes shall be done. Then the question may arise with the operator whether he will do anything or not; for that which he may do, will be comparatively of little value, in consequence of the remaining affections at other points.

Now, we think the true course is very plain to any one desiring to perform his whole duty, and that is, not to urge the patient to have more done than he desires, but to make him fully aware of the true condition of his teeth, and then, if he does not know what should be done, suggest to him the proper course to be pursued, making him acquainted with all the circumstances and probabilities of the case, and from this point the patient makes the decision; and urging or pressing beyond this point, is wholly incompatible with true professional character.

A patient may present himself with teeth similar to the case given in the beginning, that have been, in regard to cleanliness, wholly neglected, and there is no probability that in the future they will be better cared for; he requests the teeth filled, but refuses to have them cleaned, and gives no promise for that particular in the future; in such a case, however good the teeth may have been originally, it is comparatively useless to fill them. Here we think the duty of the operator is clear; he should make the patient acquainted with the necessity for cleanliness, and that his own persevering effort will be required to accomplish it, that the welfare of the teeth demands it, his own well-being requires it, and that no filling, however skillfully and perfectly performed, will suffice to save the teeth, while they are the nuclei of an accumulation of filth. It is a question for each one to decide for himself, whether under such circumstances, he should do anything. It would probably be a legitimate presumption, that any one applying for treatment of carious teeth, would pursue that course, and employ those means, which would secure to him the greatest good from the operation performed upon them. Such care, however, is not always exercised. Some patients seem to think that when teeth have been operated upon by the dentist, that that care bestowed upon them ought to suffice for two or three years; "that when they have once been fixed, they are safe for a long time to come," and usually it will be found that the teeth of these persons have truly enough got in a fix. In such cases, where the teeth are of good structure, and the vitality strong, it is admissible to fill them, even though they be neglected afterwards, for the existence of the teeth would certainly be thereby prolonged; but in those teeth of frail structure and feeble vitality, unless they can be kept in good condition afterward, they should not be filled. This we think would be the proper course to pursue in general; there are probably exceptions, however.

Though it is, as a general rule, not advisable to fill teeth, and especially frail teeth, when they will not be cared for

afterwards, there are other operations that may properly be performed under all circumstances, when requested by the patient. For example, if the teeth require cleansing, it is proper in all cases to do it, whether anything else, such as filling the decayed teeth, and extracting offensive ones, be performed or not, and even if there is little probability that they will be cared for in future. This is advisable because it is beginning at the right point, and starting in the right direction; it shows, at least for the time being, some due regard for the teeth, and the probabilities are that the patient will keep the teeth clean, and besides this, if the teeth are in an impure and filthy condition from deposits upon them, decay will go on far more rapidly, and disease of the gums and surrounding tissues will be liable to occur.

It is always proper to remove a diseased and offensive tooth, when desired by the patient, if it is beyond remedy, and though it may not have attained this point, if the patient will not have it restored to usefulness. It is right to remove one or two offensive teeth, though there be twenty others, whose removal is quite as important, that the patient will not permit to be touched; when these two teeth are removed, some good is accomplished, though twenty others remain, but in this instance, as in every other, it is the duty of the operator to endeavor to pursue that course which will secure to his patient the greatest good.

From this subject arises the question, should the dentist, under any circumstances, perform an operation that he knows, will be of no real value, though he may be urged to it by the patient. No one with a true sense of duty will feel at ease, or that self-approval, which every honest man ought to feel, when he does that for a fee, which he knows will be of no value to any one, even though that one may not be aware of the fact; indeed, the true man would be self-reproved all the more, for having practiced deception upon his victim, as well as inflicted a worthless operation. There are still other reasons, that should forbid an operator performing worthless

operations, even though urged by the patient. Operations always have an influence corresponding to their efficiency, and always, even under circumstances of that kind, the patient holds the operator responsible, and the probabilities are, that numerous other persons will become acquainted with the fact that the work is worthless. We think the position quite tenable, that no dentist is justifiable under any circumstances, in performing operations that will be of no real value, that by doing so, he does injustice to himself, to his patients, to the community, and to his profession, yea, to every member of it. This is not only true of those miserably worthless operations, that could be of no value under any circumstances, but it is also true of the most perfect and skillfully performed operations, when there is connected with them palpable circumstances, that render them necessarily inefficient.



PURPLE OF CASSIUS.

BY PROF. WILLIAM CALVERT, D. D. S.

VARIOUS have been the formulas, emanating from different well authenticated and scientific sources, for the preparation of this well known, beautiful, and indispensable pigment..

Much difficulty and uncertainty of success not unfrequently attend the usual methods of procuring it; and hitherto, it has been considered a matter of such extreme delicacy, that even the most experienced would often fail in obtaining the most desirable results.

Fully aware, as I am, from experience, of the difficulties thus likely to be encountered, I indulge the hope, that in the following, I may place the matter upon such reliable basis, as will lead all whom it may concern to a perfectly uniform and successful termination. No method, I feel safe in assuming, will be found, in all points, equally practicable, at the same time so completely divested of complexity and resolved to its most simple formula, as the one under consideration.

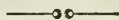
The production of this vitrifiable pigment calls into requisition the *pure* metals, *gold* and *tin*; and upon their proper relation and combination, together with corresponding accuracy in manipulation, depend the equable results.

For its preparation, then, dissolve forty-eight (48) grains of pure gold in about three fluid drams (F 3 iij) of aqua-regia, composed of hydrochloric acid, 21° B., *two parts*, and nitric acid, 38° B., *one part*. When the gold is all dissolved, pour the solution into a quart precipitating glass, or other suitable vessel, and add to it from eight to twelve ounces of water. Then dissolve thirty-five (35) grains of pure tin in a similar quantity of hydrochloric acid, with a very slight addition of nitric acid. Notwithstanding hydrochloric acid is invariably given by authors as the proper solvent for this metal, (tin), still it is a *fact*, that needs only trial to make it apparent that a minimum quantity of nitric acid, in combination with the hydrochloric, will greatly hasten a solution of the metal. When the tin is dissolved, pour into a vessel, as in case of the gold, and add a like quantity of water to it.

Next prepare a strong solution of carbonate of potassa, in water; and of this, add to each of the dilute metallic solutions, in small quantities, and as near simultaneously as possible—shaking so as to thoroughly commingle them—until one of two things is observable, viz: either a neutral solution, which may be determined by suitable test papers, (litmus and turmeric,) or till there is a slightly visible change in the color of the solutions, indicating the near approach of precipitation; the one containing the gold showing a greenish tinge, and the other, (tin,) a whitish, or milky hue. Should the alkaline solution be too largely added to either, evidently resulting in precipitation, then a small quantity of the acid (solvent of the particular metal,) should be added. If more acid is supplied than is necessary to produce the desired condition, the alkaline solution is again to be very sparingly made use of. Having now a large clean glass, or

porcelain vessel at hand, at the moment that either of these conditions becomes apparent, the two solutions, at the same moment and unitedly, should be poured into it, when, upon the instant of union, a combination ensues, yielding the desired purple.

This precipitate must now be washed thoroughly, and then dried. The washing may be most conveniently conducted in the following manner: after the precipitate has settled, the supernatant liquor should be decanted, as closely as possible, so as not to lose any of the pigment, and then fresh *clean* luke-warm water employed, filling the vessel, and permitting it to remain until the settling is again accomplished, when the water should be either poured off, or removed by means of a glass syphon. The addition of water, and the decanting of the same, should be repeated several times. After the last decantation the precipitate, with the residue of water, should be turned into an evaporating dish, which should be placed upon a sand bath, or some other convenient and suitable place, and the water slowly evaporated, thus leaving a brownish purple residue—the *Purple of Cassius*, in a state of preparation, either for the manufacture of gum enamel, or other appropriate uses.



EXTORTION.

(From *ex*, out of, and *torqueo*, to twist.)

THIS term, appropriately applied, has no reference to reward or equity of compensation, in exchange of commodities in common use. But little difficulty will present itself in the exchange of all things of determinate value; and hence, a standard, that commends itself to the consciousness, is apparent to all, so that there is no foundation for differences.

But in professions, where things above commercial, or mere money value are dealt in, the standard is a sliding scale, almost as various as the individuals with whom we come in

contact, so that the matter becomes very complicated, and opens a door for endless controversy, if we admit false or doubtful elements or agents into the practice of the high callings denominated professions.

There is no mistake more fatal to the excellency of professional service, than to bring it to the standard of mere exchange or trade; for the plain reason that something, so ethereal in its essence as to have eluded thus far the capabilities of lexicographers to fitly define, is the basis and utility of all pure professional function, that it doth not appear, as yet, how we can, consistently, drag it down to be measured by dollars and cents, or, as we might fitly say, abstract non-vital value.

This seems to withdraw the curtain a little, and to let a pencil of light penetrate our darkness, foreshadowing what is to be, viz: the exercise of all professions, as far as monetary interests are concerned, without compensation. Although to say there were no balance in such exercise of purely divine life forces, would pay but a poor compliment to the perception that could not see that it is more blessed to give than to receive; for He who gave more than any other has to give, first announced this beautiful statement.

What will a man *not* give in exchange for his life? No wonder that those earnest, honest, and persistent members of professions, who have attained eminent usefulness, command and obtain what the mere groundling deems extortionate compensation! It would really be extortionate, for the groveling service such capabilities could, in their present imprisoned state, render; and, as honest men, they must enunciate the real sentiments of their inmost, for the service is *above* their appreciation, because it is not capable of measurement by non-vital value—a plane from which they have not yet emerged.

Convince men of their highest interests, and we shall never hear of extortion being applied to anything within their mightiest effort. No legitimate acquisition of real good can

be regulated by or expressed in conventional value ; or there would come a time that an unvarying market value would attach to each good, or means of good, and thus put an end to change, that is, progress.

Wherever skill is brought to bear upon any acquirement, the only true method of computing it is to count up the value of all that is in the direct line of its sequences ; and you have a measure that all will acknowledge as adequate.

To save the life of an individual from impending loss, suffering, or death, is, to him, worth all things, and more ; but it may be of very little consequence to the world at large.

Skill is the professional man's currency, so to speak, at this stage of the development of society ; and no one would, for a moment, require him to exchange work for work, by the hour, day, month, or year, with the ditcher, and thus offset one against the other. And why ? Let him who knows how, answer this query to his own consciousness ; and he will very soon perceive that we are saddled with burdens of which we do not know the significance, until, after long and laborious experience, we have learned to attach superior value to superior effort, and superior mental power,—both of which have to lie behind all superior skill, and give it a charter to claim and receive the adequate return of its exercise.

Here, as elsewhere, the world is not slow to discern between the true and the seeming ; for mere enormity of price does not always stand in relation with superiority of execution. All that is seeming is but one of the phases of gambling ; while the true is the only truly professional prerogative.

Any return in the shape of remuneration to the professional man, is always, in the appreciation of the miser, *extortion*, really ; for it does twist out of his grasp, per force of circumstances, all he ever devotes to the high uses of skill employed for his use or relief. It matters not as to the amount ; for he will stand higgling for $\frac{1}{2}$ of one per cent. on a small sale or purchase with as much earnestness as he will demur to the payment of large amounts. With such minds, it matters not

how cheap they obtain anything, they are miserable beyond the capability of liberal minds to be miserable about money, upon the discovery that they *might* have pressed down a per cent. lower, had they persisted a little longer.

Let the professional man be careful to obtain compatibility in all the relations of life.

K.



THE ANATOMY, PHYSIOLOGY, PATHOLOGY, AND
REMEDIAL TREATMENT OF THE FIFTH PAIR OF
NERVES.

BY J. H. M'QUILLEN, D. D. S.

(Continued.)

THE marked resemblance between the spinal nerves and the fifth pair of nerves in their mode of origin by two roots, anterior and posterior, the ganglionic expansion upon the latter, the union of the anterior root with the inferior maxillary nerve, the division, subdivision, distribution and connection of the different branches with each other and with other nerves, and with the cranial sympathetic ganglion, having been described and illustrated, the next step is to consider the functions of this remarkable nerve.

To determine these functions, the most extended investigations and experiments have been made by numerous observers, among whom Sir Charles Bell, Magendie, Mayo, and Bernard have been the most indefatigable and successful. Although physiologists are united in opinion, except in some collateral details, there still appears to be some important points which can not be regarded as definitely settled. Deferring the consideration of these points until they come up in proper order, it may be said in the beginning that the analogy between the larger or ganglionic root of the fifth pair and the posterior spinal root, and between the smaller root of the fifth and the anterior spinal root, affords a clue by which, with the present knowledge of the functions of the roots of the spinal nerves, it would be natural to infer that

the larger consists of sensitive, and the smaller of motor fibres. The correctness of this inference is confirmed by the distribution of the different branches, by pathological conditions of the nerve in human beings, and by experiments upon the lower animals.

Thus, on tracing each of the three great divisions of the nerve, the ophthalmic and superior maxillary branches, which are composed of fibres derived exclusively from the larger root, are found to be distributed only to sentient surfaces, viz: the integuments of the forehead, temples, eyelids, greater part of the ear, conjunctiva, Schneiderian membrane, mucous membrane of the mouth and upper part of the pharynx, and the pulps of the upper teeth, and are unquestionably the sensitive nerves of those regions. The *inferior* maxillary branch, in contradistinction to the ophthalmic and superior maxillary, by its union with the smaller root, has two distinct sets of branches, one by which the muscles of mastication, viz: the temporal, masseter, buccal and two pterygoid, derive their motor impulse; and the other, distributed to the pulps of the lower teeth, integuments of the lower lip and chin, and the mucous membrane of the mouth and tongue, and supplying those parts with common sensibility. In addition, according to the generally received opinion among physiologists, the lingual branch is the nerve of taste for the anterior part of the tongue.

Of the pathological conditions illustrative of function, Sir Charles Bell cites a number of cases, in one of which a small sacculated tumor affected the roots of this nerve, so that the sensibility was destroyed in the parts to which its branches are distributed. In another case, in an effort to extract a tooth from the lower jaw of a gentleman, the inferior dental nerve was so much injured, that the half of the lip to which the nerve is distributed after emerging from the jaw was rendered completely insensible, and when he put a tumbler to his mouth, it felt as if a piece had been broken out. Precisely the same thing occurred in another case, from division of the

infra-orbital branch of the fifth pair, which sends filaments to one-half of the upper lip. "A gentleman falling, a sharp point entered his cheek, and divided the infra-orbital nerve; the effect was loss of sensation, without loss of motion, in that half of the upper lip to which the nerve is distributed. The remarkable circumstance was, that this individual made the remark, when a cup was put to his lip, that they had given him a broken one. The part of the cup which was placed in contact with the insensible portion of the lip appeared to him to be broken off."

As the result of experimental observation upon the inferior animals, it is found, on irritating the ophthalmic and superior maxillary nerve, that a sensation of acute pain is induced in the parts to which they are distributed, but no convulsive movements occur. By division of the branches the sensibility of the parts is completely destroyed. On the other hand, if the electro-galvanic current is applied to the smaller or motor root of the fifth pair of an animal just dead, the most powerful action is excited in the jaws, which are snapped and ground together with considerable force.

This experiment, which is a very interesting and instructive one to witness, is quite easy to perform. Thus, immediately after an animal is killed, the cranium should be opened, and then carefully removing the brain, the ganglion of Gasser will be readily found; on gently raising this, the motor root of the fifth pair will be observed beneath it. Applying the electric current to this, the results already described will be readily obtained. The animals most easily procured for purposes of experiment are rabbits, cats, and dogs. Excellent and unobjectionable opportunities for prosecuting such investigations could no doubt be afforded in the slaughter-houses of beef and mutton butchers.

In addition to the satisfactory response obtained in the above experiment, which is not open to the objection of torturing the brute creation, a more objectionable operation to many, upon a living animal, affords the most decided and con-

clusive evidence of the function of this branch. Thus, when the inferior maxillary nerve is divided on both sides in a living animal, the lower jaw falls, from paralysis of the masticatory muscles. When the section is confined to one side, the parallelism of the jaw is lost, even in a state of repose, but particularly in the act of chewing. In addition to this loss of motion—which, by-the-by, is confined to the muscles of mastication, and does not include the superficial muscles of expression, as they are under the control of the portio dura—the sensibility of the lower part of the face and tongue and the sense of taste throughout the anterior two-thirds of the tongue are destroyed.

The fifth nerve may therefore be regarded as the sensitive nerve to that great surface, both internal and external, which comprises the anterior and antero-lateral parts of the face and head, and as the motor nerve of mastication. In addition to this, according to recent investigations of Bernard, a motor branch is given off to the parotid glands, which possesses exclusively the power of stimulating their action. This branch is from the auriculo-temporal nerve, which is derived from the inferior maxillary.

The branches of the greater or ganglionic portion of the fifth pair, although formed of sensitive filaments exclusively, exercise a decided influence on the movements of the muscles of the head and face, and other parts to which they are distributed, through the numerous anastomoses which take place between these branches and the facial and hypoglossal nerves and the nerves of the muscles of the eye. This is due to the fifth pair providing the muscles with that sensibility, without which the mind, being unconscious of their position and state, can not voluntarily exercise them. Thus it may be an excitor to the facial, as in winking; or to the respiratory nerves, as when cold water is dashed in the face; or in sneezing, an act which is frequently induced in some persons by the impression made upon the branches of the fifth pair distributed to the

eye, on passing suddenly into a bright light. All of these are instances of purely reflex action.

This naturally leads to the point, that one of the most important and peculiar features connected with the fifth pair is its influence over the organs of special sense. This appears to be owing to some connection between this nerve and the function of nutrition. For it has been frequently observed that in a brief time after complete paralysis, or division of this nerve, the power of all the organs of the special senses may be lost. They do not lose merely their sensibility to common impressions, for which they all depend directly on the fifth nerve, but also their sensibility to the several peculiar impressions for the reception and conduction of which they are purposely constructed and supplied with special nerves. The facts observed in these cases can only be accounted for by the supposition that the function of nutrition in these organs is under the influence of the fifth pair, and that when that nerve is injured, nutrition becomes deranged, and consequently interferes with the due performance of the special functions of the different organs.

Thus Magendie and Longet found that division of the fifth pair within the cranium of rabbits produced a decided effect on the nutrition of the corresponding eye, with, however, this remarkable difference: if, for instance, the division was made posterior to the ganglion of Gasser, partial opacity of the cornea alone followed; but if the ophthalmic branch was divided, anterior to the ganglion, a low, destructive inflammation ensued, within a period varying from twenty-four hours to a week, in the conjunctiva, sclerotica, and interior parts of the eye, and which, in the majority of cases, progressed until ulceration of the cornea and discharge of the different humors of the organ eventually supervened.

The great difference, resulting from these two experiments has led physiologists to infer that a conjoint influence of the sympathetic and the fifth pair is exercised in the nutrition of the special organs of sense; and although the correctness of

this position has not as yet been satisfactorily determined, the connection of the ophthalmic, spheno-palatine, otic, and submaxillary ganglia, with the three great divisions of the fifth pair, and the fact that each of the ganglia sends off branches which are distributed to the different organs, give more than an air of mere plausibility to it.

The intimate connection between the sense of sight and the fifth pair is shown in frequent cases where total blindness has followed injury of the frontal nerve as it emerges from the supra-orbital foramen; although in some the blindness ensues immediately as if from concussion of the retina, in others it comes on so gradually and with a low inflammatory disorganization, followed by atrophy of the whole eye, that it appears to be due to defective nutrition.

As already stated, the fifth pair exerts a controlling influence over all the organs of special sense, and it is not alone the sense of vision that is impaired or destroyed in injury or division of the fifth nerve, but the sense of smell, of hearing, and of taste may be affected by the same cause.

Thus the olfactory nerve and the nasal branch of the fifth pair are distributed, for example, to the Schneiderian membrane of the nasal passages; the first, according to physiologists, to endow it with the special sense of smell; the second to supply it with common sensation. It is asserted that after destruction of the olfactory in the lower animals, the power of distinguishing odors, properly so called, is lost, but the Schneiderian membrane remains susceptible to the action of acrid vapors, such as ammonia, horse-radish, mustard, etc. These, however, merely act as irritating substances, affecting the mucous membrane in the same way that they would any other part endowed with general sensibility. After division of the fifth pair, not only is the general sensibility destroyed, but the power of smell is also lost.

In opposition to the above almost universally received opinion among physiologists, Magendie inferred from experiments upon dogs, that he had proved that smell continued after the

olfactory nerves had been destroyed. He found, for instance, that a dog which survived division of the olfactory for a considerable period, when food was offered to it rolled up in paper, would unroll the paper and expose and eat the food, taking no notice at the same time of other packages containing blocks of wood. These experiments have been rejected as valueless; but within the past few years Claude Bernard has cited a case where there was a congenital deficiency of the olfactory nerve, which, if the statements of persons from whom he obtained his information are to be relied upon, goes far to strengthen Magendie's opinion that the fifth pair, rather than the olfactory nerve, is the seat of the function of smell.

The case referred to, which may be found in Bernard's works, and in Lewis' *Physiology of Common Life*, though, strange to say, it has been entirely overlooked by the systematic writers on physiology, came under Bernard's notice when he was Magendie's assistant at the College of France. A woman who had died of consumption was selected by him as a subject for dissection; on opening the skull and removing the brain, he was surprised at not finding the slightest trace of the olfactory nerve. That this was not a case of absence from disease, but of congenital malformation, was proved by the fact that in all other respects the brain was of the normal structure, the origin and distribution of the different nerves being perfect and regular, with the exception of the olfactory, of which neither the bulb nor nerve was present. Two engravings, representing the brain and the base of the skull—which are still preserved in the College of France—are presented in Bernard's works.

The singular phenomena presented in this case excited Bernard's curiosity, and without giving any clue as to the object of his inquiry, he visited different persons with whom the subject (Marie) had been on terms of close intimacy during her life, and found, in response to his inquiries, "that the odor of tobacco proved insupportable to her, and that, on entering a room in the morning where any one had been smoking

over night, her first act was to open the window to let out the smell of the stale tobacco; that she frequently complained of the fetid smell of a closet which was near her room; that she was fond of flowers, and always smelled of them;" and, in fact, that her likes and dislikes, with regard to pleasant and disagreeable odors, were as decided as those manifested by persons generally. From this testimony, which Bernard regards as reliable, it is quite evident that the sense of smell was possessed by the individual, and "as the olfactory nerve was absent and the other nerves were in a perfect condition, it appears to be strong corroborative evidence that the filaments of the fifth pair distributed to the Schneiderian membrane served the function of smell, as those which are furnished to the tongue serve the function of taste."

As Bernard suggests, the most reliable experiment that can be performed to determine the relative power of the olfactory and the fifth pair, in the sense of smell, would be to select a well-trained hunting dog and remove the olfactory bulbs, and then, after a sufficient period had elapsed to enable the animal to recover from the effects of the operation, to employ him again in field sports. If, after such an operation, the function still remains, there can be little question that it must be due to the impressions made upon the fifth pair.

Leaving this as a question to be determined by further investigation, and passing to the lingual branch of the fifth pair which is distributed to the anterior and lateral parts of the tongue, it may be stated, after much discussion of the question, which is the nerve of taste, the glosso-pharyngeal or the lingual branch of the fifth pair, physiologists have almost unanimously arrived at the conclusion that both nerves are concerned in this function; the first supplying the posterior third of the tongue and soft palate, and the second the anterior two-thirds of the tongue with the function of taste.

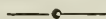
These conclusions have been adopted after numerous experiments, in which the loss of the sense of taste and of common sensation in the anterior part of the tongue followed

immediately after the division of the fifth pair, or its lingual branch; while it still remained in the parts to which the glosso-pharyngeal nerve is distributed.

Of the branches of the fifth pair, which are distributed to the upper and lower teeth, five or six filaments are sent into every fang; these ascend and form a rich plexus in the upper part of the pulp by gradually breaking up into primitive fibres. According to Tomes, these fibres pass into the dentinal tubuli. Although this discovery is in accordance with a hypothesis long entertained, it has not, as yet, been thoroughly confirmed by other microscopists.

It is of course well known, that the presence of the nerves in the tooth pulp endows it with that keen sensibility which characterizes that structure, and that the exquisite sensibility which is sometimes observed in dentine has been accounted for by the supposition that filaments of the nerve pass into the dentinal tubuli. In addition to this, in a former communication on the "Absorption of the Fangs of the Deciduous Teeth," the suggestion was advanced that the fifth pair of nerves had considerable influence over the nutrition of the dental tissues; and reasoning from the facts afforded by experiments, in which the nutrition of the special organs of sense had been affected by division of the fifth pair, it was inferred by analogy that the absorption of the fangs of the deciduous and the development of the permanent teeth were more or less dependent upon nervous connection.

(To be continued.)



HYPERTROPHY.

From hyper, above, and trophe to nourish, used always in the abnormal sense when in reference to size of tissues. Nutrition is always extravascular—(is it always or ever extracellular?) Might not decomposition and recomposition of the cells occur in the manner of crystals of salts, from

an excess of the proper solvent being present, favoring transudation through the thin membranous vessel wall?

If nutrition be extravascular, that is, effected without the circulation along the tracks of the capillaries, then it follows that each tissue must have a formative organ also without the circulation proper, endowed with the power to select and elect the particular constituents needed for each specific locality, modified of course by normal and abnormal conditions; which define the limit of purely natural development and hypertrophy. Else all exosmosed fluids must be alike solutions of their various soluble constant or adventitious salts:—and thus produce not organs, but mere consolidations of one general plasma of conglomerate crystals under the law of crystallization, leaving the water set free thereby to make its own course out of the system by percolation.

Enamel organ secretes the materials from the circulation and crystallization completes the structure. This secretion exhausts the organ to complete obliteration:—rendering it impossible ever after to exert its function in either a hyper or hypo degree. So we can have no hypertrophy of enamel in human teeth.

Cement organ properly secretes the calcareous and gelatinous matter, which product is formed by crystallization in calciferous cells, which in turn give birth to the true cemental cell, and may be properly subject to true hypertrophy, the cell being a modified bone cell, usually more regular in conformation and smaller than the average of that in bone.

The ivory organ is the pulp proper. Hypertrophy of this tissue seems to be an impossibility. But calcification of the pulp in part or entire is of too frequent occurrence to be doubted. To be sure that proper hypertrophy is out of the question so far as dentine is concerned, it is only necessary to consider for a moment the distribution of the vessels of supply to the pulp at all times, but especially after the cap of the enamel has been completed and the whole crown of pulp proper embraced in the calcified inner cap (dentine)

which cuts off the possibility of its receiving constituents from any other source than the ramifications of the artery of the future foramen at the apex of the fang.

The only approach to a claim to this term as applied to dentine is the "secondary dentine," or the true ossification of the pulp, which must be confined within the dentinal canal; with this rare modification i. e. where the dentinal tubes have been broken down for a part of the course of the length of their greater size, and replaced by this identical substance, "secondary dentine," in *this* instance a pathological product, whatever may be said of ordinary secondary dentine. In this matter the one to whom we owe the term, (Tomes) that actually accurate observer, has perpetrated or permitted a mistake, (of delineator or engraver) to pass uncorrected. I refer to the very regular and apparently original arrangement of the tubules in his 84th and 99th figures, which he claims as a clear case of secondary dentine interposing to preserve the life of the pulp. Now I only have this to say: the cut does not correctly represent the specimen or he is not warranted in denominating the barrier "secondary dentine." Does any ask why? Ans.—All secondary dentine is but poorly endowed with tubes and they are always in irregular, tortuous, sprangling tufts, or single wandering crooked lines amid an almost solid mass of calciferous substance—or so nearly approximating that form of dentine termed vaso-dentine that no one would mistake them for specimens of primal structures, if at all familiar with their microscopical appearances, the only method of becoming acquainted with the truth respecting these very fine structures.

Then let us have no more "reports" of the hypertrophy of dentine with or without *cuts*, until a new method of integration and disintegration shall have been inaugurated by the only competent authority—"Madam Nature." K.

THOUGHTS ON DENTAL CARIES.

BY GEO. WATT.

Written for the Mad River Valley Society, October.

DENTAL caries, as ordinarily used, is a misnomer; yet it is more convenient to retain, than to abandon its use. A man who has all his life called himself Smith, will find it inconvenient to do otherwise, even when he has discovered that his real name is Thompson. The term dental caries was in general use, to designate several distinct morbid conditions of the teeth, before we had any accurate knowledge of their nature. And as the principal phenomena of these conditions are well known, and are easily observed, there is little likelihood of mistakes occurring in regard to the application of the term. The term caries is usually applied to mortification, or rather, to ulceration of bone; and it was applied to decay of the teeth, under the supposition that it results from inflammatory action. For want of a better term, we still continue it, finding it easier to modify the definition than to change the word.

It is now admitted, by all who are familiar with the subject, that, whatever may be the predisposing causes, the immediate cause of dental caries is chemical action. It is well known that constitutional causes have much to do with this disease, both in producing badly organized, defective teeth, and in eliminating, or preparing the agents which act chemically on them. But no constitution produces teeth so defective that they undergo spontaneous decomposition, while retaining a vital connection with the general system. I am aware that a few pathologists still maintain that inflammation of the bony texture of the teeth, is liable to the same terminations as inflammation of ordinary bony tissue; but it is not profitable to debate this point in the present paper. Suffice it to say that the structure and position of the enamel indicate that the danger is from without, not from within.

As soon as it is admitted that decay of the teeth results

from chemical action, it is natural to inquire what agent, or agents produce this action. Accordingly, we find the profession turned at once in this direction. And when the composition of the teeth is taken into the account, we would infer that the deleterious agents are to be looked for among the acids. And here we have had great confusion of ideas, and are likely still to have it. For example, we are told "that it is proven that nearly all the acids, both mineral and vegetable, act readily upon the teeth." (Harris' Dictionary, Art. "Caries of the teeth.") Upon any part of the teeth? Or, are we to understand, that some of them act on the animal portion, some on the earthy, and some, or all, on the enamel? Just turn to the index of almost any chemical text book, and ask yourself if it is proven that nearly all of the acids there named act readily upon the teeth. Do carbonic acid, tannic acid, and scores of others that might be named, act *readily* upon the teeth? This expression, and many others, that might be quoted from various writers, show a professional longing for, rather than an attainment of the truth in regard to this matter.

Now, for convenience, let us assume that dental caries is produced by the action of acids. The question still arises, what acids? Are many acids, or only a few, concerned in its production? One of the laws of combination teaches us that chemical compounds are definite in their nature. Chemical action is always definite. When an acid combines with an alkali, or base, a definite compound, called a salt, is formed. When a different acid unites with this same base, a different salt is formed. Each salt, each chemical compound of any kind, is distinguished from all others, by characteristics peculiar to itself. It is unlike all other substances, in some respects. Each chemical result differs from all other chemical results. Of course, then, a great variety of chemical reagents will produce a great variety of chemical reactions.

Let us now inquire as to the various characteristics of

those chemical actions which result in what we recognize as dental caries. Do we here find a great variety of appearances? Or is it not well known that the phenomena of caries are so few, and so circumscribed, that, by common professional consent, but three or four varieties of it are recognized? We find one variety often called "white decay," and another that is brownish in color, and a third, that is very properly designated as "black decay." These differ in other respects, as well as in color. In the white variety all the components of the teeth are acted on, and disintegrated, as far as the disease extends. In the second variety, the earthy portion of the tooth seems to be removed, while much, or all of the animal portion remains, which is conclusive evidence that the chemical agent, whatever it may be, forms soluble compounds with the earthy materials. In the "black decay" there is less disintegration of the tooth substance than in either of the other varieties; and it progresses less rapidly than either of them. The physical characteristics of this variety, aside from the chemical, would indicate that the chemical agent, principally concerned in its production, forms, mainly, insoluble compounds with the constituents of the tooth. Then, there is a fourth variety, commonly called "chemical abrasion," in which the entire tooth substance is *removed*, as far as the disease extends. It is evident that the agent producing this, dissolves, or forms soluble compounds with both the animal and earthy materials of the tooth.

Unless we conclude that chemical compounds are not definite in their nature, and that many reagents may produce but a few reactions, we are forced to the conclusion that dental caries, as observed and recognized, results from the action of but few substances on the teeth. It is very probable that each *distinct* variety is produced by the action of a single agent, and, invariably, by the same agent. I am well aware that more than one variety may be found in the same mouth, at the same time, and in close proximity; and conse-

quently, any given case of caries may partake of the characteristics of more than one variety. It is not uncommon to find "white decay" attacking a tooth in a cavity primarily affected with the brown, or colorless variety. But every practitioner is familiar with unmixed cases, representing all the four classes specified.

The physical characteristics of decay depend much on the texture of the teeth affected; but they are dependent, also, on the nature of the compounds formed by the union of the destroying agent with the constituents of the teeth. The degree of concentration of the chemical agent has also a modifying influence. When much diluted its action is almost solely in obedience to its strongest affinity. For example, if nitric acid were the agent, when concentrated, it would act energetically on the animal, as well as on the earthy materials of the teeth; but when much dilated its action would be almost confined to the latter.

The chemical characteristics of decay, however, depend almost exclusively on the character of the agent producing it. The truth of this appears evident, when we reflect that bad teeth and good ones are composed of the same chemical substances. Marble and chalk are alike in chemical composition, but not in physical structure; and, though an acid, acts more rapidly on the latter than on the former, yet the result of the action is the same. An acid, too, will act with more energy on a soft, porous tooth, than on one of firmer texture; yet the chemical results are the same. It is safe to conclude, then, that as there are but few *results* in the chemical actions attendant on dental caries, there are but few chemical agents immediately concerned in their production.

It is not to be inferred from the above that but few agents are capable of injuring the teeth by chemical action. Many acids used in food, or as medicines, are capable of doing injury to the teeth. But no one need suppose that an acid, even though considerably concentrated, brought occasionally in contact with the teeth, is the immediate cause of caries.

Every close observer will conclude that caries is the result of an agent acting slowly and steadily in the accomplishment of its work. He will be apt to infer that this agent is either formed by chemical action within the mouth, or is eliminated therein, either as a secretion or an excretion, and that it quietly performs its disastrous deeds as fast as formed or eliminated. The application to the teeth, of an acid capable of acting chemically on them, facilitates, or predisposes to, the production of caries; and this it may do, without this acid being the *immediate* cause of the decay. A tooth may be fractured, or its enamel may be removed, by mechanical means; and, as the dentine is thus exposed, the tooth is more liable to caries than before the exposure. But no one supposes that the mechanical action which exposes the dentine is the immediate cause of the caries. The dentine would remain sound and healthy, did not some chemical agent attack it. In like manner, in the administration of acids, as food or medicine, the teeth may be so corroded as to expose the dentine, and render it as liable to the action of the carious agent as in the former case; or if the dentine is not exposed, the enamel may be roughened, either mechanically or chemically so as to afford a lodgment for organic matter, which by decomposition, may generate one of the acids immediately concerned in the production of caries. On this principle, acid medicines and acid foods may indirectly, but not immediately, cause caries. The same remarks will apply to acids brought in contact with the teeth by eructation or vomiting.

If this view is correct, the investigation of the subject of dental caries is brought within a narrower compass than many suppose. The first step is to inquire what acids, in health and disease, are liable to be secreted or excreted, so as to be brought regularly in contact with the teeth. The second is to ascertain what acids are liable to be formed within the mouth, by fermentation, or otherwise. And the third is to discover what ones of all these, are capable of producing the phenomena of dental caries. There is but little room

to doubt that, at least, each of the first three varieties is the result of a *specific* agent. And if these unstudied remarks should lead others to investigate this matter we will be satisfied.

BIOGRAPHICAL SKETCH OF DR. ALVIN BLAKESLEY,
OF UTICA, N. Y.

In presenting the following remarks upon the life and history of Dr. Blakesley it is not without a due sense of the difficulty attending such a work, that we attempt it.

In attempting to give a portraiture of characteristics, the only proper course is to adhere faithfully to the original; and especially is this the case when the subject is one who has occupied a prominent position. It was only during the last three or four years of his life that we were personally acquainted with Dr. B. But for twelve or fifteen years we had known him by reputation, and our knowledge of him warrants the assertion that he was a man of sterling worth in his profession, in society, and especially in his family. Not quite two years ago, he made the following remark, "I am the happiest man in the world in my family relations."

We can present but a brief sketch of his early life, and for this we are indebted chiefly to Dr. Swartwout of Utica, N. Y., the place of Dr. B.'s late residence.

He was born in Trenton, Oneida Co., N. Y., Aug. 19, 1798. His parents moved when quite young to Vienna, where he lived most of the time with his grandfather; his educational advantages in early life were very limited, having attended only those schools common in country villages in those days. A portion of his time was spent in agricultural pursuits, but being of too feeble constitution for that occupation, he went to Clinton, Oneida Co., at the age of eighteen years, to learn the trade of watch-making, in which with his mechanical talent he readily succeeded, and afterward went to Auburn to perfect himself in the art; he re-

mained there until he was about twenty-seven years of age, at which time it became necessary for him to give up the business, on account of his feeble health. He had pursued his business closely for a period of nine years; it became necessary for him to recuperate his health; he traveled for that purpose. During his travels he stopped in Troy, N. Y., and passing a window, saw some small tools, similar to those he had been accustomed to use; curiosity led him to enter and inspect them, he discovered to his surprise he was in the office of a dentist, a Dr. Brockway; after due investigation he came to the conclusion that he would be pleased to follow this new business, and thought that with his familiarity in the use of tools he could readily learn and practice the art. His health having improved he at once made an arrangement and entered upon his studentship; he remained with Dr. Brockway but a short time before commencing to operate for himself. His first practice was in Pittsfield, Mass., and Schenectady, N. Y., remaining in the latter place one winter. He then came to Utica, N. Y., where Dr. E. Gidney, an English dentist of some note, was then practicing for a short time. As it was his custom to make trips to Utica occasionally, he at once made an arrangement with Dr. G. to remain with him awhile and receive instruction; in the course of a year he purchased of Dr. G. all his instruments and for a consideration bound him not to practice again in that city. Thus Dr. Blakesley located in Utica about the year 1826, the first dentist, (as he often remarked) that settled permanently west of Albany, where he remained up to the time of his death, a period of thirty-four years, practicing most of the time. The close confinement of practice at times wore upon him so that he was obliged to leave home for a change of climate to recruit his health, and accordingly we find him at various times in Pittsburg, Cleveland, and New Orleans, accompanied always with his favorite instruments with which to work when able. Such was his health in 1845 that by the advice of his physician, he made a trip to Nassau, W. I., and after-

wards in 1849, to Hamilton, C. W., practicing in those places when his health permitted. Since that time he has remained at home, hard at work, with but little cessation.

During almost the entire period of his professional life he has labored under the disadvantage of an impaired state of health; but with persistless and untiring energy, he pursued his favorite work not only as a duty but as a pleasure, with the ambition and energy of a young man to the last year of his life; but few men would have stood to the post of duty under like circumstances so faithfully. The past winter and spring, he again showed signs of declining health and great depression of spirits, and by the advice of his physician and friends he consented to take a trip to Savannah for a few weeks; he once more packed up his instruments, intending to practice, (health permitting,) and left Utica, April 14, 1860, never more to return.

Dr. Blakesley was emphatically an honest, upright, honorable dentist, one who prided himself in always doing for his patients the best work that could be done.

Educated by a large experience, he was a thoroughly practical man, one who could demonstrate better than theorize. In all his professional intercourse he endeavored to maintain and advance the dignity and standing of the profession he followed so long and well.

His intercourse with the profession was not very extensive till within a few years; though he was on the most intimate terms with some of its best members. He despised every thing like quackery; he saw that the dental profession, especially in the early period of its history, was cursed with this incubus; this was probably the chief cause of his isolation from the mass of the profession. He attended the meeting of the American Dental Convention at Boston, three years ago; he was delighted to find that the profession was being rapidly elevated; he entered into the schemes and operations of the Convention with as much ardor as the most zealous; he made many valuable suggestions, in regard to

the operations of the Convention; since that time he has usually attended the meetings of the profession, and entered with good will into everything that was calculated to promote dental science. As a friend he was ever warm and confiding, while for those who were not his friends he had nought but kind words. In these respects, as well as many others, he was worthy of imitation. The remembrance of him will be green as long as those last who knew him.

Proceedings of Societies.

CINCINNATI, TUESDAY EVE., Oct. 9, 1860.

Local Dental Association met pursuant to adjournment at Dr. Davenport's office. Members present:—Drs. H. A. Smith, Taft, Richardson, Cameron, James, Foot and Davenport.

Minutes of previous meeting read and approved.

Dr. L. A. Hendrich was elected to membership.

The regular topic for discussion, viz: "*Toothache*," was taken up.

Dr. TAFT: There are several varieties of this affection—an exposed nerve becomes inflamed, and from the same causes which operate in other soft parts, there will be congestion, and consequent pressure upon the nerve fibrils, producing pain, which will be confined to the tooth where it originates. In neuralgic toothache the pain follows the ramifications of the nerves. The former, or inflammatory variety, would be relieved by depletion, which would be of little or no avail in neuralgia. Pain from inflammation of a nerve is of a throbbing character, dull, heavy and continuous—in neuralgia it is of a more lancinating character, and may affect other teeth sympathetically at the same time—

stated a case of a lower molar tooth with nerve exposed—all the teeth around to the bicuspid on the opposite side aching, this was of neuralgic character.

Dr. RICHARDSON spoke of Sympathetic Toothache. Pain is often felt in a sound tooth, have noticed it more particularly in connection with the lower wisdom teeth—the upper molars of the same side will often be affected. This variety of Toothache may be caused by the inflammation from a diseased tooth passing along the nerve to the main branch and there the pain may be reflected to other *sound teeth*, receiving their filaments of nerve from the same branch. Do not recognize neuralgia without inflammation.

Dr. TAFT: Neuralgic pain may be accompanied with inflammation. Neuralgic toothache, often becoming chronic, can not, as a rule, be relieved except by the extraction of the tooth where the difficulty originates; have saved some cases but failed in most. Inflammatory toothache is more easily cured. In the case of a patient of a nervous temperament, having severe toothache—extending to many teeth, would, if possible, extract the tooth. Have many times during the past four months, depleted inflamed pulps, covered the point of exposure with cotton saturated with creosote, and filled over with gold,—have had no trouble with them yet, can not tell whether it will be permanent or not.

Dr. H. A. SMITH thinks neuralgic toothache can exist without inflammation or exposure of the nerve. Filled a tooth over a slightly exposed nerve, but was obliged to extract the tooth afterward. Would not attempt to cure acute inflammatory toothache; thinks the chronic variety more manageable.

Dr. RICHARDSON: Neuralgia is an affection of the nerve itself. Mentioned a class of cases which he sometimes meets. Deep-seated decay, tooth bone softened to the nerve, but not decomposed, has in his practice left the layer of softened dentine over the nerve and filled without any pain; in a short time the tooth will begin to ache—thinks pulp was diseased

before the operation, and had been relieving itself by serous exudation, through the softened dentine. The filling interfered with that process, hence the pain.

Dr. FOOTE: Succeeds in saving most of the aching teeth which are presented. Abjures all medicinal agents; has not used creosote for four months.

Dr. RICHARDSON inquired if plaster of Paris would not answer for temporary fillings.

Dr. FOOTE (continued). Saves teeth where there is a discharge of matter, by *mopping* out the root and filling the fang to the apex, at one sitting.

Dr. TAFT: When a tooth is discharging through the root, the matter is secreted by the parts around the apex—if the root be filled, and the abscess remains, the matter will still be secreted and must find some other way of escape.

Inflammatory toothache can often be relieved by counter-irritation. Creosote excites the absorbents to increased action; and also forms an insoluble compound with the serum, which acts as a protection to the nerve.

Dr. FOOTE: Thinks when a root has an abscess, the sac will produce sufficient irritation to excite the absorbents.

Dr. Hendrich was appointed Essayist for next meeting; subject for discussion—"How soon after extraction of natural teeth should artificial dentures be inserted."

Adjourned to meet at the office of Dr. Cameron, on the second Tuesday in November, 1860.

T. F. DAVENPORT, *Sec'y.*

Selections.

ANÆSTHETICS IN HOSPITAL PRACTICE.

The discovery of anæsthetics was universally hailed as a great and unqualified blessing to man, the victim of unavoidable pain. The year of the announcement of the power of ether to render the patient insensible under the hand of the operator, was distinguished as the *annus mirabilis*; it began a new era in the history of operative surgery, and the older surgeon, in the language of the elder Warren, "wished again to go through his career under the new auspices." We can well imagine with what enthusiasm he who had been accustomed to struggle through difficult operations on patients forcibly held, now pursued his dissections as on the cadaver, and saw the patient, on the completion of the operation, suddenly restored to a full possession of all his faculties, as if by magic. And when, a year or more after these first experiments with ether, chloroform was introduced to notice, so agreeable to the senses, so prompt in its action, and so harmless in its effects, the perfection of anæsthetic agencies was thought to have been attained.

But every good must have its corresponding ill. It was soon announced that a lady, sitting in a dentist's chair, had suddenly expired while inhaling chloroform preparatory to the extraction of a tooth. A second, third and fourth case was reported, and always previously to some trivial operation. The faith of its friends, however, remained unshaken, and these unfortunate results were attributed to the attending circumstances, and not to the anæsthetic. At length fatal cases began to occur occasionally in hospitals, in the presence of eminent physicians and surgeons, and in spite of their previous precautions, and efforts to resuscitate the victim. Finally the fact seemed established beyond peradventure, that chloroform is not an innocuous agent even under circumstances apparently the most favorable for its administration, by the occurrence of a fatal case (in a dentist's chair, however,) in spite of the persistent and well directed efforts of Professor Simpson himself to restore animation.

It can now no longer be denied that anæsthetics are followed by unpleasant and occasionally fatal effects in a given number of instances. The latest statistics that have been published are as follows:—Total fatal cases in Europe, one hundred and twenty-five. When we take into account the aggregate cases of anæsthetization during the last sixteen or seventeen years, of their almost universal use in hospitals, and in private practice, this mortality is a percentage of the whole number of cases, positively infinitesimal. It is doubtful if any active remedy of the *materia medica* can show a better record.

The recent death by chloroform in Bellevue Hospital has, we understand, raised the question in the Medical Board as to the propriety of allowing this agent to be longer employed for purposes of anæsthesia in that institution. Before this question can be properly decided, the comparative merits of ether and chloroform must be considered, for anæsthetics in some form are now indispensable to the practice of operative surgery and midwifery, and can never be discarded, even though the mortality from their use were tenfold its present per centage. And before chloroform is stricken from the list, it were well to inquire as to the real sources of danger from its use, for if it is demonstrated that under circumstances it is as safe as any anæsthetic, every surgeon will, under such circumstances, prefer chloroform.

The comparative merits of ether and chloroform, as anæsthetics, it is not easy to decide. The statistics which we have given above show, that of the one hundred and twenty-five fatal cases from anæsthetics in Europe, twenty-five occurred during the inhalation of ether, and one hundred of chloroform, giving a mortality from the latter equal to four-fifths of all the cases. Although chloroform would seem by this exhibit to be the more fatal anæsthetic, yet a moment's reflection will convince any one that it may not even approximate the truth, for we have no knowledge of the per centage of the deaths to the number of cases of administration of either agent. It might, and probably would appear, could we sift this subject thoroughly, that chloroform had been given four times as often as ether during that period. We may, however, arrive at a very satisfactory conclusion as to the safety of chloroform, by taking the gross number of cases of its administration in certain well authenticated instances, and noting the results. For example, it was given

twenty-five thousand times by the French, in the Crimean war, without a single fatal issue. It is freely used in midwifery by many eminent English and American obstetricians, and, we believe, no fatal case has yet been reported in this department of practice. Professor Simpson is stated to have used from five to seven gallons annually for thirteen years, without an unfavorable result.

The real sources of danger in the employment of chloroform have not been sufficiently studied. Authors mention:—1st, *A full stomach*; for vomiting being a common symptom in chloroform inhalation, the patient is liable to be suffocated. 2d, Affections of the nervous system, as delirium tremens, epilepsy, hysteria, etc. 3d, Affections of the vascular system, as fatty degeneration of the heart, atheromateous deposits, etc., etc. We do not propose to discuss these contraindications to the use of chloroform, as it is by no means as yet established how far these conditions are to be regarded as complicating its effects. We believe, however, that it was maintained by the late Dr. Snow, whose opinion on all subjects relating to chloroform is entitled to our confidence, that even when lesions of the nervous and vascular systems do exist, chloroform properly administered, is far less dangerous than an operation without an anæsthetic. From some recent investigations as to the nature of death from chloroform, the following interesting facts appear:—1st, That the great majority of deaths (two-thirds) occur in slight operations, as those performed on sphincters, tendinous sheaths, strabismus, tooth-drawing, etc., but few during the larger operations, as amputations, resections, ovariectomy, etc. 2d, In the majority of fatal cases by chloroform, death occurred before the operation,—during the first stage of inhalation—the stage of excitement. 3d, That the deaths that have occurred after the operation, and were attributable to the anæsthetic, have generally been when ether was slowly administered, or ether and chloroform, but not pure chloroform. Without dwelling on these subjects, which are all of the deepest interest to those who are discussing the question of the relative or actual merits of the different anæsthetics, we shall allude to what we consider if not the real, certainly the great source of danger in the use of anæsthetics in general, and chloroform in particular, in our hospitals we refer to the gross and culpable carelessness of their administration. Rarely is the patient carefully examined by a competent person to deter-

mine if there be any contra-indication to the use of anæsthetics—a point that should never be neglected. The delicate and most responsible task of administering the agent is usually committed to a junior physician, who has no knowledge whatever of the nature of his duties; he knows nothing of the different stages through which the patient is to pass, or of the value of the symptoms which appear during the administration; his inhaler is a towel well saturated, and his directions often are to apply it directly to the face. The stage of *profound coma* having been reached, the operator seizes the scalpel, and all eyes are directed to its movements; the innocent junior, all absorbed in the operation, forgets his duty, unconsciously drops the towel upon the patient's face, and occasionally adds the weight of his body to its suffocating effect, as he leans forward in the anxious pursuit of knowledge. At length a moan, or the collapse of the jetting arteries, or the suggestion of a bystander more interested in the sufferer than the operation, recalls attention to the condition of the patient. Naturally enough he has ceased to breathe; the operation is suspended; the messenger is dispatched for brandy; and in the meantime artificial respiration by the most approved method is attempted by every available means. Fortunately the patient is generally resuscitated, at least sufficiently to have the operation completed, and be taken to the ward.

We do not here give an overdrawn picture, for such scenes if haply not more unpleasant, may be witnessed in our hospitals almost weekly. The reform should commence with the mode of administration of these agents. A medical man of known ability should be selected to administer the anæsthetic; we say medical man, because he will not become so interested in the operation as to forget his duties. To his care should be committed, so far as practicable, every patient who is about to submit to an operation. This is but that precaution which every surgeon exercises in private practice, and hence the few cases of death from anaesthetics which occur outside of our hospitals. If this degree of care is exercised in our hospitals and still fatal consequences follow the use of ether or chloroform, or both, the question may well be raised as to the propriety of rejecting the more dangerous.—*Am. Med. Times.*

A RARE FORM OF FRACTURE OF THE LOWER JAW
TREATED BY A NOVEL METHOD.

BY DR. E. J. FOUNTAIN.

In the spring of 1856, W. G——, æt. 42, fell from a height about ten feet, striking his chin upon a hard piece of timber. The result was a fracture of the lower jaw through the body on either side, and also through the neck of the condyle on the left.

The deformity was characteristic of fracture of the neck—namely, a displacement of the whole of the lower jaw backwards and laterally to the side of the fracture. The middle portion was disconnected by simple fractures without displacement, around which the membranous and muscular tissues held sufficiently firm to admit of sufficient traction upon the part posterior to the middle fragment by force applied to the latter in the region of the symphysis. By careful manipulation, crepitus could be felt at each point. Upon releasing the traction in front, the deformity immediately returned, by which it became evident that the fracture through the neck was oblique, permitting the retractive force of the muscles to reproduce the deformity as soon as the force which held it in front was removed. It became evident at once that to retain this fractured portion permanently in apposition so as to prevent deformity, would be the greatest difficulty. A temporary application of the pasteboard splint and four-tailed bandage was applied, and ordinary measures used to guard against excessive inflammation. During the following eight days, I tried every form of dressing by splints and bandaging that my ingenuity could devise to effect a *permanent* reduction of the fracture of the neck, and in this I was assisted by two skillful surgeons, Drs. O'Reardon and Adler, but all to no purpose. The middle fracture gave me no trouble but in arranging the fractured neck, I could derive no aid from my friends, and found no light to guide me by consulting our text books on surgery. There was no difficulty in properly reducing the fracture, but after laboring for hours with all manner of appliances to retain it in place, I would invariably find the chin slipping back, and to one side, until in a very short time the original deformity would be entirely restored and our united efforts completely baffled. On the eighth day after the injury we all labored for several

hours to secure a correct and permanent position of the parts, and had finally to abandon all our efforts as ineffectual. The case was now a truly distressing one. The family became impressed with the belief that it could never be accomplished, and the prospect of a serious and unsightly deformity for life created an anxiety and grief which can hardly be described.

A method then occurred to me which I at once announced as a *sure* way and the *only* way by which deformity might be prevented, and the parts made to unite permanently in their true position. The jaw was displaced backwards and laterally towards the injured side. By firm and steady traction it could be brought out in place, and now the question was *how* to retain it there. It became evident to me that some unvarying, persistent force must be applied to a fixed point in such a manner as to take the place of my hand or the instrument used in bringing it out and holding it there. The anterior portion of the superior maxillary, or its prolongation by the teeth, presented this fixed point, and by *drilling holes* in one or more of the upper and lower teeth in front, and firmly *wiring* them together in their natural position, the lower jaw must of necessity be prevented from falling backwards or to one side. Wrapping wire around the teeth could not be depended upon. The holes drilled for this purpose I thought could be easily filled by a dentist and thus preserved; and even though much injured or destroyed, how trifling this loss compared with a lasting deformity of the whole jaw—unsightly in appearance and serious in its effects upon the voice and mastication. I at once obtained the services of a dentist to drill the teeth, which was found to be no very light operation, owing perhaps to a want of proper instruments. In order to make sure of a perfect reduction of *lateral* as well as backward displacement, I had the holes made in such a manner that the traction of the connecting wire would not only hold the two bones firmly together, but also draw the jaw to the side *opposite* the fractured neck, in order that the loop of wire might not, like a link, swing slightly to one side by the muscular contraction. I therefore had a hole drilled directly through a front incisor above, and another through one below, not directly opposite in their natural position, but through the one adjoining it on the one side towards which the bone was inclined to be drawn. Through these I passed a double strand of fine annealed iron wire, such as is used by

jewelers, and drawing the lower jaw forward in its place and holding it firmly against the upper, by aid of assistants, I twisted the wires tightly together. The success was complete. There I now had it exactly in place, and as long as the wires should hold there was no possibility of the slightest displacement.

After this was accomplished the other fractures were easily managed. A pasteboard splint was moulded about the whole of the lower jaw, and retained by the usual four-tailed bandage. The patient had no difficulty in taking liquids, which were easily drawn into the patient's mouth between the teeth, and by this means he was nourished for the *four weeks* during which he patiently endured this artificial *lock-jaw*. In about ten days the wires gave way, and I immediately inserted another cord composed of four of the same wires, and this held the jaw securely and immovably fixed until the fractures were all united.

I removed the wires after the jaw had been thus secured for four weeks, and found that perfect union had taken place at all the points of fracture, *without a particle of deformity*, except such as necessarily resulted from the provisional calus. This was in time gradually absorbed, and now, nearly four years since the accident, no one can tell by his appearance, or by an examination, that any fracture had ever taken place.—*New York Journal of Medicine*, Jan. 1860.



Extreme Congenital Deformity—Separation of the Superior Maxillary bones—Want of Proper Development of the Palatine Processes of the same bone and also of the Palate bones, connected with Hare Lip—Removed by C. C. FIELD, M. D., of Easton, Pa.—About a year since, the wife of R— B—, Esq., of ———, Penn., gave birth to a child so hideously deformed as to cause great grief to the parents, and to excite the horror and surprise of all who witnessed it. The deformity consisted of an entire separation, at the suture, of the superior maxillary bones. A wide gap also existed in the roof of the mouth, in consequence of a deficient development of the palatine process of the superior maxillary bones, and also a like deficiency in the palate bones, producing a large opening, extending into the nasal cavities, every part of which could be distinctly seen, as well as the anterior part of the

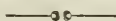
fauces. The separated portion of the right superior maxillary bone extended outward, and turning to the right, drew down the nose to such an extent that the nostrils were scarcely perceptible, the nose being almost even with the face, and particularly the left side of it. Connected with this was a hare lip, or what may perhaps be more fully expressed as an entire separation of the upper lip, being continuous with the opening in the maxilla into the nasal cavities. The wide anterior gap, the flattened nose and the separated and contracted upper lip presented a spectacle of the most hideous character, and spread terror among the neighbors, especially the females. The child, from its condition, was of course prevented from nursing. It was therefore fed on milk, introduced through a tube, until it was $4\frac{1}{2}$ months old. I was called upon by Dr. A. C. Smith, under whose care the child was, to suggest something for its relief.

After examining the child—which was healthy but not robust—with the greatest care, it was determined in consultation to attempt to remove the deformity, and place the parts in such a position that it would be able as it increased in age to masticate, swallow, and have all the advantages of speech, all of which, at least to a very great degree, it would never have been capable of without an operation. All things being considered, it was determined to operate upon the child without delay. Dr. Smith had charge of the case, on whose attention subsequent to the operation much of its success depended. Dr. Bowlsby, of Finesville, and Dr. Bergin, of Easton, were present to assist. The child, being properly secured, was held by an assistant. The two halves of the upper lip and the base of the nose were carefully dissected upward, on a line with the malar processes, and so held, when with strong cutting forceps, the deformed portion of the superior maxilla was removed, also the margins of the palatine processes of the two maxillas and of the two palate bones. For the purpose of approximating as much as possible the two maxillas, they were partially separated from their connection with the malar bones, with the forceps. The bleeding from the ends of the divided bones was most profuse, and could not be stopped by the most powerful astringents, when the actual cautery was resorted to, by which it was at once arrested. The bones were then brought as closely as possible in contact, the edges of the separated lip were removed, the parts united with needles and ligatures, and the whole supported by adhesive strips

and bandages. Although at its close the child lay prostrate for several hours, the operation proved entirely successful.

The child is, at present writing, perfectly healthy and entirely free from all deformity, its appearance being so changed that no evidence of the former irregularity can be seen. At the time of the operation, in December last, it was $4\frac{1}{2}$ months old; it is now nearly a year, and all that was hoped to result from the operation has been realized. It can masticate, swallow without any artificial aid, and is as forward in speech and correct enunciation as children of its age.

We send you an account of this case not merely in consequence of the great deformity that existed, but for the purpose of communicating at how early a period so fearful an operation may be performed and the benefits which have resulted from the operation, already enumerated.—*Medical and Surgical Reporter.*



ETHER AND CHLOROFORM.

By Dr. G. HAYWARD, late Professor of Surgery in the Massachusetts Medical College, Boston.

[The profession is scarcely prepared to receive without qualification the opinion that ether should be substituted for chloroform in all cases, to the entire exclusion of the latter. But the author observes that in no instance has there been any alarming or serious symptoms from the use of sulphuric ether, even when used to a great extent, undiluted with air. It does not produce anæsthesia quite so speedily as chloroform.]

There is no doubt in my mind that sulphuric ether should be used as an anæsthetic agent to the entire exclusion of chloroform. It is as efficacious, and I should say without hesitation, after having seen chloroform administered by others in many cases, that ether produces a more complete state of unconscious insensibility. Its effects pass off sooner, and less vomiting, nausea, and headache follow its inhalation. It is as easily administered. All that is required for its administration is a bell-shaped sponge with a cavity large enough to cover the nose and mouth. If the patient breathes it gradually, little or no irritation is produced in the larynx and air-passages, there is but little if any cough or sense of

suffocation, nor a distressing or unpleasant symptom of any kind.

There may be some persons to whom the odor of ether is offensive and irritating, but they are comparatively few, and even they can be brought under its influence without any very great annoyance.

The quantity of sulphuric ether required to produce anæsthesia depends very much on the manner in which it is administered. If the patient is made to inhale it rapidly, and the atmospheric air is to a great extent excluded, a small amount will be sufficient. From four to eight ounces may be regarded as the average quantity. It is rare to meet with a case in which less than four ounces will be used; and in protracted operations, in which it is desirable to keep up the state of insensibility for a length of time, I have often given more than eight ounces. The ether should at first be poured on the concave part of the sponge; one or two ounces will be enough for this purpose. When the inhalation is going on, it is better to pour the ether on the outside of the sponge so as to avoid the necessity of removing it from the face. From half an ounce to an ounce should be used at a time in this way, till anæsthesia is produced. When this takes place, the patient is wholly unconscious, and has no control over the voluntary muscles. He is unable to raise his eyelids when told to do so, and gives no indication of hearing or consciousness, if spoken to in a loud tone. The pulse usually becomes slower than the ordinary standard, though at the beginning of the inhalation it is quicker.

It is, I am confident, a perfectly safe anæsthetic agent. I have not been able to find any well-attested case of death from its inhalation. There may have been such, but they have never come to my knowledge, though I have taken unwearied pains to obtain information on this point.

It has been said, that this may be attributed to the fact that ether is not extensively used, but that if it were, there would probably have been as many fatal cases in proportion from it, as from the inhalation of chloroform. But this statement is not strictly correct; for though ether is not employed as an anæsthetic agent to any extent, if at all, in Great Britain or many parts of Europe, it is used in Lyons, Naples, and is almost the only one that is administered in the principal hospitals of the United States of America, where its now familiar properties were first discovered.

I have given it in several hundred cases, and witnessed its exhibition by others in as many more. I have administered it to infants not three weeks old, and to persons more than three score years and ten, and have never in a single instance seen an alarming or distressing effect produced by it. On the first introduction of ether into surgical practice, it was not thought safe to allow persons to inhale it in whom there was reason to believe there was any disease of the heart or lungs, or who had any tendency to an affection of the brain and nervous system. But for some years past I have been in the habit of administering it to individuals of this description, and have as yet had no cause to regret it. In such cases I have thought it prudent to have the vapor of the ether inhaled more slowly, so that it may be more diluted with atmospheric air than under ordinary circumstances; of course, the patient could not be brought as soon under its influence as when taken in the ordinary way.

The state of the system which is produced by the inhalation of ether, is that of narcotism, similar precisely to what is induced by drinking immoderately wine or other alcoholic liquors. It is a state of intoxication more transient and less dangerous than that from alcohol. Its effects pass off sooner, because the vapor of the ether begins to escape from the lungs as soon as the patient ceases to inhale it; while alcohol taken into the stomach is carried into the circulation, and mixes with the blood, and in this way acts longer, if not more powerfully on the brain, though its narcotic effect is not so soon produced. It is possible that life might be destroyed by the inhalation of ether, if it be continued uninterruptedly for a great length of time and a great quantity inhaled. Fatal congestion of the brain might thus be produced, as sometimes happens when alcoholic liquor has been taken to excess. But no person of ordinary prudence would administer it in this way. Long before the occurrence of such a result, symptoms of an unequivocal character would indicate the approaching danger.

When death follows the inhalation of chloroform, on the other hand, there is no merciful premonition. The late Dr. Snow, whose experience on the subject was perhaps greater than that of any other person, thought that "*sudden palsy of the heart* is the cause of sudden death from chloroform." In death by asphyxia, the heart beats for some minutes after breathing has ceased; "whereas in some cases of death by

chloroform, the breathing has been proved to go on up to the time the pulse stopped, and after it."

With the hope that those who may have occasion to employ any anæsthetic agent will at least make a fair trial of *rectified sulphuric ether*, I respectfully submit these remarks to my professional brethren.—*Brit. and For. Med. Chir. Review*, Oct. 1859, p. 484.



ACUTE PERIOSTITIS.

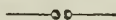
By T. B. CUBLING, Esq., Surgeon to the London Hospital.

There are few operations more frequently performed in the hospitals of London than those required for the removal of necrosed bone, and they are certainly more common now than they were in former years. The results show that these operations are essentially of a conservative character,—that tedious sinuses, always discharging and liable to inflame, have been enabled to close, and that useful limbs have been saved by the removal of a constant source of irritation. These operations have become more frequent, then, because surgeons have become more strongly impressed with the advantage of extracting locked-up or impacted dead bone—have become less afraid of ill-consequences from the necessary disturbance of parts, and have been emboldened to undertake tedious and troublesome operations, knowing that they can be rendered painless by chloroform. Our museums are rich in specimens of encased bone taken from amputated limbs; but such preparations are rarely added now, because it is seldom that a limb is removed for such a disease until the attempt to save it has been made by extracting the incarcerated bone. But so numerous are cases of necrosis in hospital practice that it is well to inquire whether we can not, in many instances, prevent this serious result. The more common cause of necrosis in the long bones is acute periostitis; consequent upon injury.

When we consider that the whole, or greater part of a bone may be destroyed by periostitis—that the inflammation may extend to the adjoining articulations, imperiling the safety of a limb, and that patients sometimes sink under the constitutional fever attending it, I need not urge the importance of an early diagnosis of the disease, in order that

right and prompt measures may be taken for its removal. The complaint for which acute periostitis is most liable to be mistaken is acute rheumatism; and it is a mistake which, I fear, is not unfrequently made in practice. Indeed, some care and nice observation are required to make the diagnosis. In rheumatism, as in periostitis, there is high inflammatory fever, with swelling of the limb, and great pain, increased by pressure, so that the patient is nearly helpless and he shrinks from the touch of the surgeon in dread of the torture which an examination may cause him. In periostitis, say of the femur or tibia, the swelling is diffused. It is not limited to the larger joints—to the ankle or to the knee, but occupies a wider range, and is cedematous in character. But the chief diagnostic mark is the seat of pain. In periostitis little or no pain is caused by pressure, unless it be made over, or in the course of, the affected bone. You may, in the early stage, move the limb at the knee or the ankle, and press the ligaments and tendons without producing pain, but the slightest pressure on the bone excites intense suffering. If you press over the tibia or the muscles of the thigh around the femur in rheumatism, you rarely cause much pain; but in acute periostitis such pressure can not be tolerated for a moment. The conclusion in favor of periostitis will be much strengthened if it be found that the attack of inflammation succeeded an injury.

The treatment commonly recommended in acute periostitis is local depletion with calomel and opium. Just at the onset of an attack, in a superficial bone like the tibia, this treatment may be of service, but in periostitis of a deep-seated bone, or if the inflammation do not speedily subside, such measures are not to be relied on. After matter has formed beneath the membrane, they are worse than useless. They weaken the patient without exerting any influence on the disease. There is then no way of averting serious mischief but by a free incision of the inflamed periosteum.—*Lancet*, Sept. 3, 1859, p. 231.



THE GRAPE TREATMENT ON THE TEETH.—A writer in the *Lancet* says that the grape cure exerts a deleterious influence on the teeth. He has seen the front incisors of a patient greatly corroded after spending some time under the treatment at Vevey.

DEFECTIVE ASSIMILATION IN INFANTS—ITS PREVENTION AND TREATMENT.

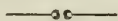
BY DR. ROUTH.

[The greater part of the mortality of infants is due to the defective assimilation—the result of want of breast-milk, and the use of injudicious food. Diseases of defective assimilation are favored by hereditary tubercular habit, exanthemata, bad air, and want of cleanliness. After death when diarrhœa has been present, red patches or aptha are found on the alimentary mucous membrane, or a reddish-colored intensely acid mucus is found exuded from it.]

The disease seems to be gradual, passing on to entire loss of *primary* assimilation; the secondary still persisting, although inactive from want of assimilable matters to take up. Albuminous, starchy, and oily matters were not digested.

The *treatment* consists in supplying fatty acids and already artificially digested animal and occasionally vegetable substances, especially human milk. If this could not be sucked, it should be collected in a cup and given by the spoon. Dr. Routh strongly animadverted here upon the absurd dogma, that it is wrong to mix human and cow's milk. He, on the contrary, believed the plan not only safe, but the very best practice in many cases, and the only means of saving an infant's life. Simple juice of meat, and this with vegeto-animal food, he had found most useful in fulfilling these indications. The remedies were of two kinds: 1st. Those calculated to increase cell growth and development. Phosphate of soda, producing an emulsion with fats, thus allowing of their assimilation; chloride of potassium, to dissolve carbonate of lime; phosphate of lime, to enable blood to take up more carbonic acid, and thus hold in solution more carbonate of lime; (these substances severally strengthening muscular and bony structure;) lime-water to provide lime to blood. 2d. These last also acted as some of the remedies calculated to allay local irritation of the alimentary canal. Carminatives were useful, such as dill, but especially cinnamon-powder, to correct flatus and to check diarrhœa. Anodynes were also (however objected to generally) strongly recommended by the author. For the diarrhœa, when present, nitrate of silver, and sulphate of copper were the best remedies. Wine was also found very serviceable, even if given in large quan-

ties. These remedies, however, it must be confessed, proved in most cases of no avail in the third stage, which was, he might say, almost incurable; but they acted very effectively in the second and first stages.—*Lancet*, June 18, 1859, p. 613.

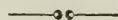


FATALITY FROM CHLOROFORM.—Dr. Kidd, who has given much attention to the subject of chloroform, has observed that deaths attributable to its inhalation have occurred more frequently during the performance of the minor surgical operations. The statistics of deaths from chloroform certainly show a much greater proportion in the performance of trifling operations, as of 85 fatal cases in which the nature of the operations was recorded, 10 were extractions of teeth, 14 removals of toe-nails and operations on phalanges, while of this number none occurred in the performance of the large amputations, resection or ligature of large arteries, etc.

Dr. Kidd has therefore hastily concluded from these results, that “chloroform is safer in large than in small operations.” He seems to have overlooked the fact of the vastly greater frequency of the performance of small operations, and of course the more frequent administration of the anæsthetic, which is, we believe, sufficient to account for the apparent greater fatality attending minor operations.

Dr. Kidd estimates the number of deaths from inhalation of chloroform to be about one hundred. We think that if this number had been quadrupled it would more nearly approximate the truth. Chloroform never gained general confidence in this country, and its use has within the past few years rapidly declined, yet the deaths referable to it would probably equal one half of Dr. Kidd’s entire estimate of fatality from it.

The European origin of chloroform inhalation and its distinguished authorship, has given it a confidence which can not long be maintained in the face of such uncontrollable mortality, and while the causes of sudden death from it are so little understood.—*Medical and Surgical Reporter*.



SALIVARY CALCULUS.—J. H., aged 48 years, of spare habit and slender constitution, some fourteen years since was seized with a severe pain under the left side of his tongue.

He applied to his family physician, who could give him no satisfactory information as to the cause or nature of his complaint; neither could he afford him any relief. He was induced to consult other physicians in his vicinity, and he did so with like results. In the meantime a small tumor made its appearance on the under side of his tongue, near or at the seat of pain. He went to Boston and consulted the late Dr. —, who informed him that his disease was cancer, and gave him but little encouragement as to any permanent relief. He returned to his home, determined to abide the result of what he then supposed an incurable disease. From that time until about the first of February last, he has suffered paroxysms of severe and excruciating pain at different times. The tumor gradually increased in size, and the paroxysms of pain became more frequent, until it finally became inflamed, suppurated and burst, discharging a small quantity of pus and a calculus weighing fifteen grains, having the general appearances of ordinary renal or biliary calculi. He has since been entirely free from pain.—*Communicated for the Boston Medical and Surgical Journal.*

TESTS FOR THE PURITY OF CHLOROFORM.—M. Berthe gives the following directions in the “*Moniteur des Hopitaux*”: Chloroform may contain chloride of elaidine, alcohol, various chlorides, amylic, and methylic combinations, and aldehyde. By adding caustic potash to chloroform, containing chloride of elaidine, the compound is transferred into chloride of acetylene, the factor of which is immediately noticed. In order to ascertain the presence of all the other compounds which may be mixed with the chloroform, especially alcoholic compounds, pound a small quantity of bichromate of potash in a little chloroform, and add to this mixture a few drops of sulphuric acid. If the chloroform is pure, a reddish-brown precipitate of chromic acid is formed; if not pure, the acid is reduced, whilst the precipitate, or sometimes the liquid itself, assumes a green color, dependent on the presence of the sesqui-oxide of chrome.—*Lancet, Aug. 27, 1859, p. 218.*

BLOODLESS OPERATION FOR CLEFT PALATE.—It may be recollected that M. Jules Cloquet published, in 1855, an essay on the method of applying cauterization to the ab-

normal cleavage of certain organs, and that cases were therein mentioned in which union of the margins of the cleft had been obtained by repeated cauterization. At the meeting of the Academy of Science of Paris of the 21st May, M. Cloquet brought forward a case treated by Prof. Benoit, of Montpellier. The child was eleven years old; the soft palate was completely cleft, and all the usual symptoms were present. The treatment lasted nineteen months, with two rather long interruptions. The whole cleft has now united, save that of the uvula, and this result was obtained by 33 cauterizations, 14 with the acid nitrate of mercury, and 19 with the solid nitrate of silver. A slight nasal pronunciation still exists, being the result of habit. M. Benoit means to apply the same treatment to the uvula.—*Lancet*.

SULPHURIC ETHER AS A SUBSTITUTE FOR CHLOROFORM.—The Medical Times & Gazette states, that at Lyons, France, ether has almost universally superseded chloroform as an anæsthetic, both in hospitals and private practice. After a discussion of the subject by the Medical Society of that town, resolutions were adopted to the following effect: 1st Sulphuric ether employed as an anæsthetic is less dangerous than chloroform, no accident having followed its exclusive and abundant employment at Lyons during eight years; 2d. Anæsthesia may be as abundantly and completely induced by it as chloroform; 3d. Ether should, therefore, be preferred to chloroform. This but confirms the experience of medical men in this country on the same subject.

DEATH FROM THE INHALATION OF CHLOROFORM.—Fatal cases from the inhalation of chloroform are multiplying. Two deaths from this cause have occurred in Bellevue Hospital, N. Y., in less than a year, and others are reported elsewhere until we have grown weary of recording them. The question is raised, and should be seriously considered, whether sulphuric ether, which is said to be entirely safe, should not be substituted for chloroform, notwithstanding its slowness of action?

The following letter on the use and abuse of tobacco, present some of the points so well that we can not refrain from giving it a place in the Register.

Upon this subject of tobacco there is an exceeding diversity of opinion, arising from the different effects manifested by it, upon different individuals; and this resulting from the different susceptibilities, and the different modes in which it is used. Upon these two points turns all the variety of manifestation exhibited in the use of this article. Some use it sparingly, so that no palpable systematic effect is produced; while others use it to such excess that the system becomes saturated with it, so that not only is the breath loaded with its odor, but every excretion of the body is tinctured, and in some cases saturated with it.

There is a great diversity of susceptibility to the influence of tobacco; some will use large quantities without seeming to be very seriously affected by it, while in others, even a small quantity will produce very marked effects. But aside from all this, we have a few words in regard to its use by dentists. The use of tobacco in any ordinary way, by the dentist, is a practice which we consider reprehensible, in point of propriety and etiquette. It is in all cases offensive and disgusting in proportion to the carelessness with which it is used, and the amount. Some are so careless, that in using a small amount they are very offensive.

No one can use even a small amount without the breath becoming tainted with it, and this to many persons is sickishly offensive; how a dentist of any refinement can persist in such an infliction upon his patients, is more than we can comprehend. But we intend in future to say something more upon this subject.—ED.

THE USE AND ABUSE OF TOBACCO.—*Sir*:—Having been applied to some time since to join in a petition to the House of Commons that they would appoint a committee to inquire into the effects produced by the prevailing habit of tobacco smoking, I declined to do so; first, because it did not appear to me that such a committee would be very competent to dis-

cuss a question of this kind; and secondly, because, even if they were so, I did not see that it would be possible for Parliament to follow up by any act of legislation the conclusions at which they might have arrived. Nevertheless I am ready to admit that the subject is one of no trifling importance, and well worthy the serious consideration of any one who takes an interest in the present and future well-being of society. From these considerations it is that I now venture to address to you the following observations.

The empyreumatic oil of tobacco is produced by distillation of that herb at a temperature above that of boiling water. One or two drops of this oil (according to the size of the animal) placed on the tongue will kill a cat in the course of a few minutes. A certain quantity of the oil must be always circulating in the blood of an habitual smoker, and we can not suppose that the effects of it upon the system can be merely negative. Still, I am not prepared to subscribe to the opinions of those who hold that, under all circumstances, and to however moderate an extent it be practiced, the smoking of tobacco is prejudicial. The first effect of it is to soothe and tranquilize the nervous system. It allays the pains of hunger and relieves the uneasy feelings produced by mental and bodily exhaustion. To the soldier who has passed the night in the trenches before a beleagured town, with only a distant prospect of breakfast when the morning has arrived; to the sailor, contending with the elements in a storm; to the laborer, after a hard day's work; to the traveler in an uncultivated region, with an insufficient supply of food, the use of a cigar or a tobacco pipe may be not only a grateful indulgence, but really beneficial. But the occasional use of it under such circumstances is a very different matter from the habit of constant smoking which prevails in certain classes of society at the present day.

The effects of this habit are, indeed, various, the difference of constitution, and difference in the mode of life otherwise. But, from the best observations which I have been able to make on the subject, I am led to believe that there are very few who do not suffer harm from it, to a greater or less extent. The earliest symptoms are manifested in the derangement of the nervous system. A large proportion of habitual smokers are rendered lazy and listless, indisposed to bodily and incapable of much mental exertion. Others suffer from depression of the spirits, amounting to hypochondriasis, which

smoking relieves for a time, though it aggravates the evil afterwards. Occasionally there is a general nervous excitability, which, though very much less in degree, partakes of the nature of the *delirium tremens* of drunkards. I have known many individuals to suffer from severe nervous pains, sometimes in one, sometimes in another part of the body. Almost the worst case of neuralgia that ever came under my observation was that of a gentleman who consulted the late Dr. Bright and myself. The pains were universal, and never absent; but during the night they were especially intense, so as almost wholly to prevent sleep. Neither the patient himself nor his medical attendant had any doubts that the disease was to be attributed to his former habit of smoking, on the discontinuance of which he slowly and gradually recovered. An eminent surgeon, who has a great experience in ophthalmic diseases, believes that, in some instances, he has been able to trace blindness from amaurosis to excess in tobacco smoking; the connection of the two being pretty well established in one case by the fact that, on the practice being left off, the sight of the patient was gradually restored. It would be easy for me to refer to other symptoms indicating deficient power of the nervous system to which smokers are liable; but it is unnecessary for me to do so; and, indeed, there are some which I would rather leave them to imagine for themselves than undertake the description of them myself in writing.

But the ill effects of tobacco are not confined to the nervous system. In many instances there is a loss of the healthy appetite for food, the imperfect state of the digestion being soon rendered manifest by the loss of flesh and the sallow countenance. It is difficult to say what other diseases may not follow the imperfect assimilation of food contained during a long period of time. So many causes are in operation in the human body which may tend in a greater or less degree to the production of organic changes in it, that it is only in some instances we can venture to pronounce as to the precise manner in which a disease that proves mortal has originated. From cases, however, which have fallen under my own observation, and from a consideration of all the circumstances, I can not entertain a doubt that, if we could obtain accurate statistics on the subject, we should find that the value of life in inveterate smokers is considerably below the average. Nor is this opinion in any degree contradicted by the fact that there are individuals who, in spite of the inhalation of tobacco

smoke, live to be old, and without any material derangement of the health; analagous exceptions to the general rule being met with in the case of those who have indulged too freely in the use of spirituous and fermented liquors.

In the early part of the present century tobacco smoking was almost wholly confined to what are commonly called the lower grades of society. It was only every now and then that any one who wished to be considered as a gentleman was addicted to it. But since the war on the Spanish Peninsula, and the consequent substitution of the cigar for the tobacco-pipe, the case has been entirely altered. The greatest smokers at the present time are to be found, not among those who live by their bodily labor, but among those who are more advantageously situated, who have better opportunities of education, and of whom we have a right to expect that they should constitute the most intelligent members of the community. Nor is the practice confined to grown-up men. Boys, even at the best schools, get the habit of smoking, because they think it manly and fashionable to do so; not unfrequently because they have the example set them by their tutors, and partly because there is no friendly voice to warn them as to the special ill consequences to which it may give rise where the process of growth is not yet completed, and the organs are not yet fully developed.

The foregoing observations relate to the habit of smoking as it exists among us at the present time. But a still graver question remains to be considered. What will be the result if this habit be continued by future generations? It is but too true that the sins of the fathers are visited upon their children and their children's children. We may here take warning from the fate of the red Indians of America. An intelligent American physician gives the following explanation of the gradual extinction of this remarkable people: One generation of them become addicted to the use of the fire-water. They have a degenerate and comparatively imbecile progeny, who indulge in the same vicious habit with their parents. Their progeny is still more degenerate, and after a very few generations the race ceases altogether. We may also take warning from the history of another nation, who some few centuries ago, while following the banners of Solyman the Magnificent, were the terror of Christendom, but who since then, having become more addicted to tobacco smoking than any of the European nations, are now the lazy

and lethargic Turks, held in contempt by all civilized communities.

In thus placing together the consequences of intemperance in the use of alcohol and that in the use of tobacco, I should be sorry to be misunderstood as regarding these two kinds of intemperance to be in an equal degree pernicious and degrading.

The inveterate tobacco-smoker may be stupid and lazy, and the habit to which he is addicted may gradually tend to shorten his life and deteriorate his offspring, but the dram drinker is quarrelsome, mischievous, and often criminal. It is under the influence of gin that the burglar and the murderer become fitted for the task which they have undertaken. The best thing that can be said for dram-drinking is, that it induces disease which carries the poor wretch prematurely to the grave, and rids the world of the nuisance. But unfortunately in this, as in many other cases, what is wanting in quality is made up in quantity. There are checks on one of these evil habits which there are not on the other. The dram-drinker, or, to use a more general term, the drunkard, is held to be a noxious animal. He is an outcast from all decent society, while there is no such exclusion for the most assiduous smoker.

The comparison of the effects of tobacco with those of alcohol leads to the consideration of a much wider question than that which I set out. In all ages of which we have any record, mankind have been in the habit of resorting to the use of certain vegetable productions, not as contributing to nourishment, but on account of their having some peculiar influence as stimulants or sedatives (or in some other way) on the nervous system. Tobacco, alcohol, the Indian hemp, the kava of the South Sea Islanders, the Paraguay tea, coffee, and even tea, belong to this category. A disposition so universal may almost be regarded as an instinct, and there is sufficient reason to believe that, within certain limits, the indulgence of the instinct is useful. But we must not abuse our instincts. This is one of the most important rules which man, as a responsible being, both for his own sake, and for that of others, is bound to observe. Even such moderate agents as tea and coffee, taken in excess, are prejudicial. How much more so are tobacco and alcohol, tending, as they do, not only to degradation of the individual, but that of future generations of our species.

If tobacco-smokers would limit themselves to the occasional indulgence of their appetite, they would do little harm either to themselves or others; but there is always danger that a sensual habit once begun may be carried to excess, and that danger is never so great as in the case of those who are not compelled by the necessities of their situation to be actively employed. For such persons the prudent course is to abstain from smoking altogether.

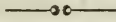
Trusting that you and your readers will excuse me for having occupied so large a space in your columns,

I am, Sir, your obedient servant,

August 27.

B. C. BRODIE.

Med. Times and Gaz., Sept. 8th, 1860.



STILL ANOTHER DEATH FROM CHLOROFORM—SHALL ITS USE CONTINUE?—A death from chloroform, at the Northampton Infirmary, is recorded in the *London Medical Times and Gazette*. The patient was about to submit to an operation for the removal of 'a small tumor from the back. Chloroform was administered cautiously. The testimony before the coroner's jury says that the effects of the anæsthetic were soon visible upon the deceased, who became insensible without anything unusual being observed, although he was closely watched. On removing him into a proper position for performing the operation, it was observed that his countenance was very much changed. The suspicions of the operators were at once roused, and immediate steps were adopted for bringing the man to his senses again, instead of commencing the surgical operation. Restoratives were resorted to, but to no purpose. Artificial respiration was then attempted, but this, too, was unavailing, and after an hour's futile endeavors at respiration, the deceased was reluctantly given up as lost.

We record this case, not from any peculiar interest that it possesses, but that it may be added to the long, dark list which now stands against chloroform. All statistics of fatalities from chloroform which we have seen, are inaccurate, and far below the truth in their estimates, and we desire that every fatal case attributable to it may hereafter be presented. It is hoped that such cases, instead of being concealed, as they often have been, as if the unfortunate administrator felt

guilty of homicide, will henceforth be published. We believe that, had all the deaths from chloroform been properly noted, a list could now be presented which would astonish most of the advocates of its use, and do much in future to prevent loss of life by causing the discontinuance of its administration.

The practice of administering chloroform is rapidly decreasing in this country, and we sometime ago predicted its discontinuance for general anæsthetic purposes, and the substitution of ether. If its use is not lessening in Europe, there is a growing want of confidence in its safety. The very caution with which European surgeons give it, shows that they use it with a consciousness of its danger. In the testimony of this case it was stated that the operator had the precaution to examine the deceased, "to ascertain if he was able to bear the effect of the chloroform." In the use of ether, which is now admitted to be almost absolutely safe, no one ever thinks of using such precautions, and it is now deemed admissible in any condition in which its anæsthetic effects are desirable.

We relinquished the convenient use of chloroform with reluctance. When deaths under its administration became frequent, we still hoped that greater caution in its use, increased study of its physiological effects, further knowledge of the conditions which contra-indicate it, and a discovery of the constitutional idiosyncrasies which make the administration fatal, would enable us to continue its use with safety. But the fatalities are now as numerous, as unexpected, and as inexplicable as ever. Patients in vigorous health and under the most cautious hands, continue to die when but little of the vapor has been inhaled, and sometimes at almost the first inspiration.

In the present state of our knowledge of the mysterious fatal influences of chloroform, and its acknowledged uncontrollable mortality, we consider its ordinary use unjustifiable while an efficient and safe alternative for use is at hand. If the profession do not discontinue its use, patients will soon refuse it. There is already, owing to its dangers, an increasing prejudice among the masses in regard to anæsthesia, in whatever manner produced, and if the use of chloroform, with its fatal accompaniments, continues, the popular verdict will condemn anæsthetics entirely, preferring to suffer pain rather than incur such a hazard of life.—*Medical and Surgical Reporter.*

PROFESSIONAL MAXIMS.—The difficulties and the honors of professional life, the value of labor, and the failures of genius, are subjects which can never grow trite and wearisome to the mind of the professional reader. Few men will read without interest the words which Lord Stanley addressed to the students of University College in presenting the successful candidates with their hardly-earned prizes. He told them that real work—work which will stand the test of time and the criticism of competent judges—can never be the result of hasty, careless, or desultory efforts. The rapid intuition, the sweeping glance, the ready analysis, and the triumphant argument, in which we admire the skillfulness of a born genius, are the evidences of trained thought and well-drilled intelligence, of which the schooling has often been secretly accomplished. So that facility becomes a measure for previous labor, and readiness an index of early preparation. The students were warned, too, against an error which many hundreds of members of the medical profession must now deplore. They were told that when once a man has thrown himself heart and soul into the turmoil and anxiety of professional life, there is not for him much more—in ninety-nine cases out of a hundred there is no more—of that free and liberalizing study which develops not one faculty, but all the faculties of the mind. There is an universal and almost irresistible impatience to burst the bonds of college discipline, and to spring into active life. The phrase is—to waste no time but to buckle to the work of life at once. But time spent in study, while the habit of mental application is yet strong and the mind vigorous and impressible, is not lost; it gives such a perfection of mental culture as heightens all the powers, and helps at once to happiness and success. Wisely did Lord Stanley say to these young men—“Study as long as in prudence you can, and don’t fear that life will not be long enough to reap what you have sown.” It is almost to be regretted that any are permitted to engage in the active pursuits of life, as in our profession, when just of age. The young man of twenty-one, who will give three years to study and mental cultivation, will always look back upon the time so spent with pleasurable satisfaction.—*Lancel.*

Correspondence.

MESSRS. EDITORS:—After a somewhat protracted silence, occasioned by summer jauntings, I will, with your permission, renew my correspondence. And first, I wish to make some remarks on the late meeting of the “American Dental Association” held at Washington, as the smoke has cleared away and we can now look calmly at the results, and this I wish to do without being justly chargeable with censoriousness, or give the slightest occasion for offense; and in the hope that my interest in the success of this important movement will be sufficient apology for any strictures that may be made.

The profession were led to expect,—as it was unquestionably the purpose of its founders—that this organization, from its select, representative character, must produce results of greater moment; that its proceedings would be characterized by a more elevated tone; that it would bring out a higher order of merit, and that in a word, it should be a decided improvement in every essential feature, upon any other organization now, or that ever had been connected with the dental profession. Am I not right? Was not this the implied, if not expressed intention and purpose of its projectors?

Now, to what extent has this been accomplished? To “this extent, no more.” *Four essays, and the synopsis of a fifth*, constitute the *sole product* of the meeting.

Now, it comes properly within the scope of this discussion to canvass the character of these essays, as they are essential to the argument; but as by so doing I might be charged with personalities (which above all things I wish to avoid), I forbear; and as they have all been placed before the profession, their respective and collective merits may be ascertained and determined. But I submit that, collectively, they are not up

to what the profession had an undoubted right to expect, considering the character and abilities of some of the projectors and participants in this movement; and above all, that the result has not been commensurate with the avowed purposes and pretensions of its friends, and therefore a general disappointment is the result.

My hope is,—and it is a reasonable hope,—that the next annual meeting will exhibit a decided improvement upon the last, and that the interest will be enhanced by the introduction of intelligent discussions.

The committees—an extensive number of which were created—will, I take it for granted, accomplish something important, else why their appointment? But where the matter is to come from, upon which so many are to pass judgment, or whether they are to originate and prepare it themselves, or whether by report they are to make an exhibit of the condition of the science in their respective departments (which latter I presume to be their functions), will be learned, no doubt, at the next meeting, which I shall look forward to with considerable interest.

Prof. Chapin A. Harris is gone, and the profession has lost a valuable and a valued member. His reputation as author, teacher and practitioner, is world-wide; and he probably occupied the most exalted position and received more honors than any member of the profession of our day, and deservedly so, for to his labors as an author are to be attributed, more than to any other agency, the rapid advances made by the profession in practice and in the public estimation. Death has removed him from a wide field of usefulness and a host of sincere friends; and those who succeed us in professional life will revere his memory with the same unanimity we now deplore his loss.

Dr. T. W. Evans has returned to Paris, after quite a prolonged visit to his American home and friends. While here, he favored a company of professional acquaintance with an exhibition of the various and valuable presents, such as dia-

mond pins, rings, snuff-boxes, insignia of honors, etc., etc., made him by the crowned heads and nobility of Europe, amounting in intrinsic value—so supposed—to the handsome sum of thirty or thirty-five thousand dollars, but upon which he very naturally places a far higher value, as evidences of a splendid success in his profession, and of which he is justly proud.

Poor Jobson is in limbo at last. After bullying our mutual friend, Dr. John Allen, and numerous others in New York, and levying black mail wherever there was hope of plunder, he has at last been picked up in London for libeling a distant relative of some distinction, and has been awarded a year's residence at hard labor in one of the English penal establishments.

Yours,

O. U. G.

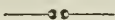
PHILADELPHIA, Oct. 20, 1860.

Editorial.

MODIFYING INFLUENCES OF DENTAL CARIES.

THE question is often asked, why is it that our teeth decay so generally and so rapidly. This is often asked, as though it could be answered by a single sentence, and it is predicated upon the supposition, that the cause is very palpable and simple, while the facts are, that the causes of caries of the teeth are numerous, diverse, and some of them not easily comprehended, at least by those who have not made the subject a matter of study and investigation. The diversity of opinion that exists in reference to this subject arises from the fact, that there has been but little general systematic investigation. While it is true that there has been some research made, in reference to the immediate exciting agents of dental caries, yet the circumstances that influence these agents, have received but little attention.

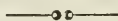
We have two or three suggestions to make, in regard to this matter, which we hope will be considered by, and elicit the attention, of all the members of our profession who feel an interest in the matter. We have reference to statistics in regard to caries of the teeth. These should have reference, we think, especially to the following things: 1st. Hereditary peculiarities; 2d. Accidental defects, and their character, either local or general; 3d. The manner of living,—the kind of food used, and the manner in which it is used; 4th. Climatic influences,—the effect of residence in malarious regions; in low marshy regions, in elevated and dry portions of the country. We think statistics in regard to the latter particular would develop some facts, that are not generally known. We shall hope to have papers from all our brethren who can give this subject their attention, and let them embody concise and complete statistics in regard to this subject. In the performance of this work let each one take a definite and well marked locality or region of country, for instance, marshy, or malarious, or dry, hilly, healthy; and if practicable, give the manner of living of the people, and all the circumstances that may be supposed to affect the teeth, either directly or indirectly. We hope these statistics will be forthcoming as soon as practicable, and we will take great pleasure in giving them to the profession. Full statistics of this kind would be an invaluable acquisition to the profession. T.



OUR CORRESPONDENT.

IN the present number, our Philadelphia Correspondent makes some strictures upon the results of the American Dental Association recently held at Washington City, in which we think he hardly does the matter justice. He seems to think that all that was accomplished was the production of four or five essays, which, upon the whole, were of very ordinary character, and not at all what the profession expected. Now, our own private opinion is, that *the* intended work of this meeting was not the production of these, or any other essays, but the work was the organization of the Association; the putting up the machinery and setting it in motion. Who ever expected a mill would grind before it was built? We do think the organization was the chief work of that meeting, and

for the most part was well accomplished, and we doubt not comes up to the reasonable expectation of the profession. The principal aim of these essays was, to give variety to the exercises, rather than the production of any deep scientific researches. We think it hardly fair to hold this small and very imperfect part of the work up to view, and say that the whole was a failure. We will acquiesce in Correspondent's proposition, to await the results of another meeting,—and see if the machine can produce any better results, after it is put in motion, than before. T.



PREPARED GUTTA PERCHA STOPPING.

WE received, several months ago, a specimen of this material from the manufacturer, Dr. H. L. Jacob, of Bridgewater, England, and have since been using it in all cases where anything of the kind was indicated. It has some good qualities that we think deserve notice. It is evidently prepared with great care, the gum is very pure,—the silicious material very fine, and these are incorporated most perfectly. It is very hard, and yet very tenacious, and is of uniform consistence. In color it is made to correspond very nearly or quite to the natural teeth. It of course is a non-conductor, and is applicable in all cases where a temporary filling is desirable. It is suggested that it will answer for permanent fillings; we think, however, that cases are rare in which it should be relied upon for permanent fillings, and yet we have seen fillings, made from material much its inferior, in several respects, that have been worn for the last seven years, and that are yet apparently in good condition. It is not yet for sale in this country, but we believe arrangements are being made to supply the profession with it. T.



NEW YORK DENTAL INSTITUTE.

THE New York Journal informs us that the "New York State Dental Association" met at Saratoga, August 9th, and appointed a committee to organize a Dental Institute, draft a constitution, and report at a future meeting. We are glad to hear of any thing that looks to the improvement of the profession. We hope that, in this case, the "New York fusion" will be successful and per-

manent. Our brethren of the Empire State have not, hitherto, pulled well together. They have not even agreed to disagree. For example, the New York City Society appointed delegates to the National meeting, at Washington recently; but, according to the New York Journal, this move was killed by a minority, during the absence from the city of several members. Now, brethren, let us forget self, and think only of the cause in which we are engaged, and all will be well.

W.

 OBITUARY.

DEATH OF DR. CHAPIN A. HARRIS.—We are pained to announce the death, at his late residence in this city, of Professor Chapin A. Harris, the Father of the Science of American Dentistry, and one of the most laborious and useful professional authors, teachers and practitioners in our country. This sad event occurred on Saturday afternoon, Sept. 29th, and was the result of long illness contracted by sheer over-work in his excessive and varied labors in the line of his science, to which he was but too ardently devoted.

The career of Dr. Harris has been full of interest, and he has achieved in his thirty years of professional life, very marked results in elevating and developing the important branch of medicine, for which he has so long and so well labored. He was born in 1806, at Pompey, Onondaga county, New York, and graduated with honor as a regular physician about 1830. After practising medicine for several years, he turned his attention to dentistry, then hardly regarded as a science, and comparatively little understood as a distinct practice.

In 1840 he founded the Baltimore College of Dental Surgery, the first of its kind, we believe, in the world. Of this successful Institution he was the leading Professor and Lecturer for the twenty years, since its opening. His elaborate "Dictionary of Dental Science," 1849, and the more extended work, "Dictionary of Medicine, Dental Surgery and the Collateral Sciences," 1854, r. 8vo. pp. 800; the "Principles and Practice of Dental Surgery," 1839, eighth edition, 1838, 8vo., pp. 892, are but a few of the principal literary labors of his life. He has also translated from the French several valuable medical works, and has steadily edited since its commencement in 1839, over twenty years ago, the American Journal of Dental Science, assisted at various times by Dr. E. Parmly, S. Brown, E. Maynard, A. Westcott, W. H. Dwinelle, A. A. Blandy and A. Snowden Piggott.

We can not, in this hurried notice, undertake to do justice to the many private virtues and public services of the lamented deceased, whose death is deplored by so wide a circle of sorrowing relations

and not less devoted friends. We hope hereafter to give a more worthy sketch of his career.

The above from the Baltimore American, conveys the sad intelligence of the death of Dr. Chapin A. Harris.

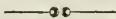
Dr. Harris was, probably, the oldest active member of the profession in the United States, and has certainly done more for the profession than any other man. He entered its ranks when it was young, feeble and unpopular; he early took a high stand, and maintained his position. He as a professional man, was every way worthy of emulation. His life was no doubt much shortened, by the incessant labor which he performed for the profession.

It is useless to specify to our readers the particular object upon which he bestowed his labor, for these are well known to all the members of the profession. Notwithstanding he did so much, it was all well done, better than could have been anticipated. He was perfectly devoted to his profession, from the time he entered it till his death. The loss thus sustained is very great to the dental profession throughout the world. His memory will ever be held in grateful remembrance by those who knew him, and his name will descend through future generations as one of the chief pioneers in this specialty of medical science. T.



TRANSACTIONS OF THE AM. DENTAL ASSOCIATION.

THE proceedings of this body have been published in a volume, in which is included the Minutes of the preliminary meeting held at Niagara in August, 1859, and the Minutes of the meeting held at Washington City, D. C., on the 31st of July, 1860; it also includes the Constitution and By-Laws and the Essays read at the latter meeting. It has been thought best to do this, in order that the entire proceedings may be obtained together. Copies may be had upon application to either member of the Publishing Committee. T.



✍ WE neglected, in the last number of the Register, to give the COSMOS credit for the cuts which illustrate that portion of the article on the fifth pair of nerves, published in that number. We were under much obligation for them, and hope for an opportunity to reciprocate. T.



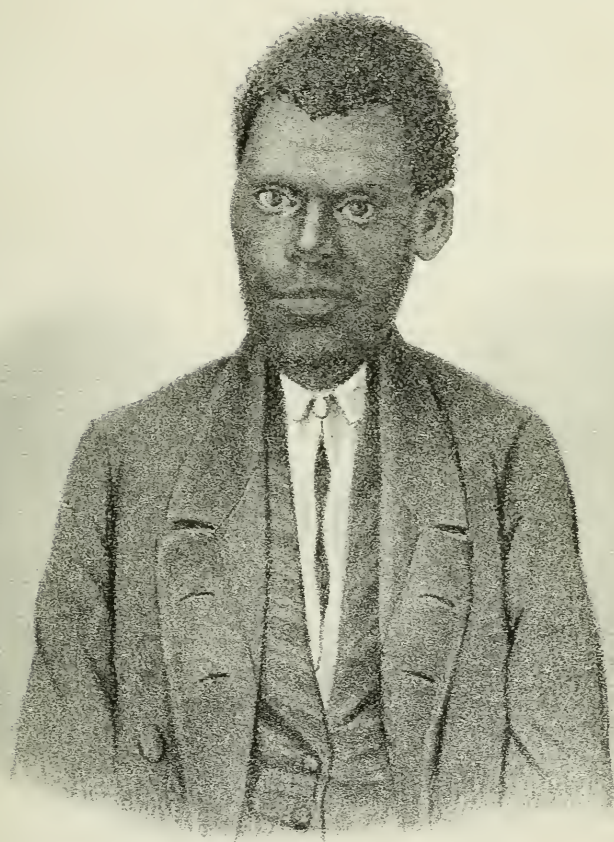
Blackman's Case of Ustec Sarcoma of Lower Jaw.



Front View



Side View



Harold Forbiger & Co. Inc. N.Y.

View after Operation

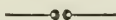
THE DENTAL REGISTER OF THE WEST.

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[No. 6.

Original Essays and Communications.



THE PROVINCE OF THE DENTIST.

BY J. TAFT.

IN the last number of the Register, we made some remarks upon the duties of the Dentist in particular cases, and circumstances. We now propose some farther remarks upon this subject, but in reference to other particulars. We shall now consider Dental Medicine and Surgery, in other respects than the ordinary operations, such as filling, extracting, &c. Heretofore, the knowledge of pathological conditions, beyond the immediate tissues of the teeth, was very limited indeed, with the greater portion of the dental profession, and the consequence was that their treatment for these conditions was wholly at random and consequently inefficient, or was not attempted at all, the latter, with those sensible of deficiency would generally be the case. Some seem to suppose that if they have a few general ideas of the diseases of the teeth alone, that they are fully competent to treat them for those diseases. A proper consideration of the matter will convince any one of the fallacy of such a conclusion. No one is competent to treat any pathological condition without a thorough knowledge of that condition itself, at least so far as it may be known, and of all the circumstances that may modify or affect it. The treat-

ment of any disease must be modified and governed by the attending peculiarities ; and if these peculiarities are ignored the treatment is necessarily empirical, and usually inefficient. The diseases of the teeth—caries, for instance—may be influenced by a great variety of circumstances ; such as a diminution of the systemic vitality, a diseased condition either general or local. Now, for the proper treatment of the dental tissues alone, it is all-important that the dentist be able to detect any diseases there may exist in the system, their nature and extent, and the influence, either direct or remote, that they may exert upon the teeth, without this, all the labor for the restoration and preservation of the teeth may be lost. With this view of the subject it is the duty of the dentist to extend his investigation into the cause, nature, and influence of disease as far as possible. No one, with a proper appreciation of the subject, will be satisfied with merely superficial attainments.

It is the business of the dentist to determine what influences are operating in producing caries of the teeth in any case ; whether they are affected only by extraneous causes, or whether by vitiated secretions, or by a depraved condition of the general system, and if by the latter, what the peculiarities are. Not only should there be the ability to detect and diagnose disease, but also a knowledge of the proper treatment, especially that treatment which the welfare of the teeth demands.

It is not expected that in all cases the dentist shall attempt to employ general treatment, but there are many cases in which he may and it is even his duty to do it. The dentist can not always with propriety refer his patient to the physician. Often the physician does not know the object to be aimed at so well as the dentist.

It may not be the business of the dentist to treat general or local disease, outside of his specialty, with a view to its complete eradication, but it *is*, so far as a diversion of their pernicious influence upon the teeth is concerned.

If a knowledge of disease and its treatment is important to the dentist who operates only upon the teeth, much more is it important to him who operates upon and treats the parts and tissues in the vicinity of teeth. It is the business and proper function of the true dentist to treat not only the dental tissues, but also the surrounding parts that may be affected by the teeth or may affect them. The neighboring parts may become seriously affected by diseased teeth, and require very special treatment; disease of the antrum may be referred to as an example; tumors of various characters aside from diseased teeth, these sometimes occur of a malignant character; are sometimes confined to the soft parts; at others, involve the osseous tissues. In order to treat cases of this kind properly, the operator should be able to determine a malignant from a non-malignant tumor, or growth.

It is the legitimate work of the dentist to treat all the diseases of the teeth, and of the neighboring parts so far as they influence the teeth or are influenced by them. This may seem rather too much of a stretch when compared with the ordinary practice. There is no such thing as a good knowledge of the disease of a particular organ without a knowledge of the organs that may be in connection, both in respect to their normal and abnormal conditions. As a general thing, dentists give no attention to diseases of the parts, even of those that materially affect the teeth. This arises from the very circumscribed sphere which they have marked for themselves, and from the fact that the people make no demands, and have no expectation, in this direction. It is, however, the duty of the dentist, to do something more than perform a few simple operations upon the teeth, in a manner indicating that he ignores almost entirely their organization and vitality, and that they are susceptible of disease, or may be the cause of it in other parts. The dentist should be able to recognize the peculiarities and predisposition of any constitution as readily as the general physician or surgeon. He should be able to recognize the manner in which the teeth are

liable to be affected in any given case, and how other parts, when diseased, will affect the teeth or be affected by them. Then, the next step is to know the appropriate treatment, and to possess the ability to employ it.



TREATING AND CAPPING EXPOSED NERVES.

BY DR. W. A. PEASE.

DR. WATT has taken the initiative, in bringing before the readers of the profession, a subject that excited a lively interest and discussion at Saratoga, viz: the propriety of treating and capping the exposed nerves of teeth. As a whole, I am pleased with his article, and, though it is apparent he has a kind feeling for the nerves, and evidently wishes them a long life and no aches, and, indeed, is willing to give them a helping hand, and by trusting them, give them a chance for their lives, it is obvious he does so with some mental misgiving and many fears. As this subject will command the attention of the profession for some time to come, it will be proper for observers to put on record the results of their experiments and experience, and such other observations as may be pertinent, or will tend to throw light upon the subject.

All admit that the nerve (using a comprehensive term) is capable of depositing dentine, or toothbone. From childhood up to a certain age, the nerve recedes from the crown, or cutting edge of the tooth, and deposits dentine as it goes, till it arrives at a certain point, which is generally half way between the cutting edge of the tooth and the gum, where it generally remains stationary during life, unless, from some irritating cause, it is again aroused to action, again to deposit dentine, or calcific matter. The deposition of dentine seems to be solely due to the periosteum, or the membrane lining the nerve canal; but, at times, there is another and inferior material deposited, without much reference to use, and for no intelligible purpose. This inferior material, or calcific matter,

is deposited capriciously and at random, often near the foramen, or scattered along, at different points, in the body of the nerve, in what may be called nodules, or points of diffusion. Where the circumstances are favorable, these nodules increase, the deposit following along the course of the fiber, or vessel on which the nodule is situated, till, finally, the fibers are all calcified, when they are united together, forming one calcified mass. Then the periosteum may become ossified and unite the calcified nerve to the tooth. It is needless to say that these deposits are exceedingly rare, and when they do occur, they must probably be referred to those morbid, or diathetic conditions of the system, in which we find valvular, or muscular ossification. Certain it is that this calcification is of no practical value to the dentist; but he possibly may yet derive some benefit from the deposition of dentine by the periosteum. The one seems to be systemic, or diathetic, but little due to caries or dental irritation, and may be also going on in the arteries or tissues outside of the teeth; the other is chiefly due to local and dental irritation, and is the nearest approximation we meet in the teeth of that osseous repair which we know follows injury of the bones in other parts of the system. Reasoning from analogy, from the known laws that govern the repair of injury of the long bones, we may expect too much, and perform operations that will end disastrously, when a more intimate knowledge of dental pathology would save us from mortification. It is well known that the periosteum is a secretory organ; it forms the bones, and, to a certain extent, repairs their injuries; it unites most fractures, or resections; but there is no authentic case where the fangs of a tooth, after fracture, have been united. So necessary is it to the health of bone, that a part denuded of it is liable to necrosis; and the most that can be said of it is, as a dental organ, that in some constitutions and under certain circumstances, it deposits dentine to prevent its exposure by the gradual loss of the substance of the tooth, from external attrition or caries; and, in some few instances, it is re-

ported to have closed an opening, made by a dentist, in preparing a cavity, and to have deposited a septum of bone between itself and a plug. Thus, so far as we know, its reparatory capabilities are exceedingly limited, and seem to be exceptional rather than constant; and, it is probable, they will never be of much benefit to man, except in those cases, where, from direct antagonism, the teeth are gradually worn away during a series of years. In such cases, there is generally a secondary deposit of dentine of undoubted value.

Here the question arises, can the dentist call into exercise, at will, the secretory properties of the periosteum, known to be active during the gradual wearing away of the teeth; for it is known that some stimulus is necessary, as the nerve rarely makes any effort to protect itself from the ravages of caries, and the few cases where this effort is made, simulate the gradual wasting of the teeth from mastication. If we go to analogy for an answer, we find the requisites to unite a fracture are apposition and rest; of resection, the preservation of the periosteum; and recent experiments have shown that the periosteum, transplanted to other structures, as the comb of a cock, still performs its legitimate function, and deposits ossific matter. When there is an indolence of the secretory function, and a failure to unite a fracture, or rather, when the callus has been broken, or the granulation interrupted, the surgeon, after cutting down to the bone, removes a portion of the ends, or drills holes into them, and places therein pegs of ivory or bone, to re-excite an inflammation, after which, the fracture generally unites. Here the ivory pegs perform the same office that the grain of sand does in the shell of the oyster; and it is possible that some foreign substance, placed against the internal periosteum of a tooth, under favorable circumstances, may excite it to action. This is the more probable, inasmuch as some stimulus is known to be required, as caries seldom excites it to deposit osteo-dentine. Those who have split many carious teeth will not require to be told that periosteal depositions are exceedingly

rare ; and that class of dentists who destroy the nerve and remove it from the tooth, will bear witness to the infrequency of periosteal deposits. For myself, I can say I have removed the nerve from its canal, almost daily for many years, and as it comes from the canal and hangs dangling from the point of the instrument, I have examined it, called the attention of my patient to it, (for it was satisfactory to him to know that the nerve was not only dead, but actually removed from the tooth), and together we have examined it, held it up between us and the light, and remarked how it represented the exact form of the nerve canal. We have placed it on paper, and there re-examined and handled it, before it was taken away by the patient as a curiosity ; and I must confess I have never met with a single case of calcification, or ossific deposit by the nerve, attributable to caries. Cases there may have been, where, at some point beneath the cavity, the nerve has made a feeble effort to protect itself. If so, they have escaped my observation ; and I think I should have noticed them, as in excavating a cavity, when I approach that point where anatomy says the nerve should be, I have almost held my breath, lest an incautious cut should expose it ; and if, from accident or necessity, that point was reached, I have invariably found the nerve, or the fetid chamber where it died. From this, I am persuaded, as well as from all the information I can derive from others, if I except some few cases to be mentioned in another place, that the efforts of the nerve to protect itself from caries are so slight and so rare, in comparison to the numberless cases met with every year where no effort has been made, that they scarcely arise to the dignity of an exception.

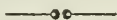
The question then arises, if caries is removed by thorough excavation, the nerve is exposed and healthy, have we any known means to stimulate that nerve to take care of itself, by depositing a septum of bone between itself and the plug ? Is the plug of itself a sufficient stimulant, as is the grain of sand in the shell of the oyster ; or must we resort to other

means? If so, what? Medication? What are the agents, or is rest sufficient? Hitherto it has been supposed that the nerve was simply exposed, but not wounded. If wounded, would that complicate the case? If so, how much? What would be the prognosis; or would that depend upon the nature of the wound, whether it was a point, or a line, a simple slit, leaving the edges of the periosteum in apposition, or whether there was an actual loss of substance? If there is merely a slit, will it heal kindly by first intention; and will that be just enough inflammation to ensure the necessary deposit? Or, if there is a loss of substance, will that place heal and be restored? If so, how? By granulation? Then there must be secretion, effusion. Where is that secretion to go, after the tooth is thoroughly plugged; and what is to become of it, if it finds lodgement? Will it putrefy, or be absorbed? Here a delicate question arises. How much irritation or inflammation can we set up in the nerve, encased as it is in a solid wall of bone, and not produce engorgement, or gangrene? And provided there should be too much phlogiston, have we any special anti-phlogistics to reduce it?

I have before remarked that I had seen cases where the nerve had deposited dentine of repair, to protect itself from caries. A few words will dispose of them, and show that they do not constitute an independent class, but really belong to that class in which the nerve deposits dentine of repair, to protect itself from the gradual wear of teeth in mastication. They were, so far as I recollect, cases where, at some time, caries had been active, but from some cause, generally from the removal of a tooth, where the cavity was on the approximal surface, the smaller cavity in the remaining tooth ceased to increase, and the decay lay dormant for several years. In plugging such teeth, I have often found secondary dentine, and in some of them also calcific deposits. Now, the long time in which caries has lain dormant in these teeth fulfills all the conditions that exist in the gradual wear of the teeth during mastication. It gives the nerve time to protect itself

and shows that the only thing necessary, so far as we now know, to enable it to protect itself, by a secondary deposit of dentine, is time, or the gradual loss of substance of the tooth during several years. The past summer I was plugging some teeth for a gentleman of seventy years of age. While preparing the front approximal cavity of the second superior bicuspid tooth, I noticed he flinched. Supposing the nerve was dead, I had cut down boldly into the cavity to secure a good base, as the tooth was very badly decayed, and also to prepare the fang for filling. I examined it, and found a very healthy deposit of secondary dentine. Afterwards, while preparing a cavity for him in an incisor tooth, I was very cautious in my explorations, till I found the nerve was dead.

Without describing other cases, or discussing this question further at present, I will say, I have tried every plan my ingenuity could devise, or that has been suggested by others, and I do not know that I have plugged over a single exposed nerve that is now alive. Bear in mind, I do not say none of them are. Some of them have given no trouble; others, I know, are dead. Whether alive or dead, they only prove that the nerve, or teeth, will sometimes tolerate a great deal.



LORD OXYGEN.

From an introductory to a course of Lectures on Chemistry.

BY GEO. WATT.

Man is, to a great extent, a creature of habit. He dislikes sudden changes. The schoolboy lingering on the bank, shrinking from the sudden plunge into the cold stream, demonstrates this truth to himself, while the pallid cheek and compressed lips of the commander about to order a charge, demonstrate the same truth to others. A disposition to hesitate precedes all great undertakings; and this is the great cause of that procrastination, known as "the thief of time," which, manifesting itself mainly in reference to repentance and matrimony, peoples this world with old bachelors, and

the next with reprobates. About to engage in a great undertaking, shall we not be allowed to indulge in the luxuries of this universal law of laziness? About to embark for a four months' voyage, on the deep sea of an abstruse science, with imperfect charts, and inexperienced sailors, is it any wonder we incline to linger in port, and while away an hour, in view of the long toil before us? Let us, then, prove ourselves members of the great human family of procrastinators, by spending this hour, with less of toil and mental labor than will fall to our lot in the hours which are to succeed it.

But man is also a creature of instinct. He can be taught to know and do many things; but some things he will, and from his very nature, must know and do without any teaching, and even in spite of instruction to the contrary. He eats when he is hungry, drinks when he is thirsty, seeks for warmth when he is cold, and for a cool place when he is hot, not because his reason teaches him to do so, but simply in obedience to the instincts of his nature. Another, and one of his strongest instincts, impels him to worship that which he regards as worshipful. This instinct affords him no guide at all as to what he should worship. To do this, is the province of reason and revelation. And while these infallibly point out the great Creator of all, as the only fit object of worship, in the highest sense of the term, yet there is a sense in which "gods many, and lords many," may and should be worshiped, (or honored) with true devotion. But even here, reason and revelation must be his guide, or he will sink to the folly and crime of gross idolatry.

All worship, even in this subordinate sense, should be consistent. Consistent idolatry is far less odious than that which is inconsistent. We might pardon the astronomer for his worship of the stars; but we would be disgusted with his homage to a golden calf. Every man should be engaged in a good cause, and should admire, honor, or worship it accordingly.

Being now about to engage in the study of an important

science, let us ask ourselves if the cause is not a good one. And if good, shall we not honor ourselves by honoring it? As the youth seeks the society of her whom he adores, so let us manifest our love for this science, by seeking an intimate acquaintance with its truths.

But if you doubt the propriety of rendering homage to this science, and fear that in doing reverence to it, in all its ramifications, we may be regarded as "too superstitious," let us turn our attention to a single element which it reveals to us, and inquire to what extent, if at all, it is entitled to our admiration.

What then, is the character of oxygen? To what extent is it entitled to our consideration? How much respect do we owe it? What reverence must we pay it? Shall we worship it?

Man naturally admires and reverences that which is mysterious. And this element is invisible. It is *seen* only in its works, which are many and wonderful. It forms the ocean and the land. It presides over the atmosphere, and governs the changes which take place on the earth's surface. The other elements are its servants, and are forced to aid in its manifold labors. With one it forms the rain-drop and the dew, with another, the balmy atmosphere, with a third, the flinty rock; and with a fourth, the miry clay. With one it fans the genial fire, and with another extinguishes the destroying conflagration. These are but parts of its ways—ever busy, but still invisible.

Nor is this all of its mystery. Where is it? Nay, where is it not? Is it omnipresent? It extends high above the mountain crag, and far below the ocean's bottom. It accompanies, or rather carries, the eagle in his most daring flight, and follows the miner down deep into the bowels of the earth, and is there even before him. It rides on the swift wings of the wind, and rejoices in the storm cloud; for both are creatures of its construction. It is in the middle of the mountain, in the solid rock, and in all things that live. Man can not

define its boundaries. To him it is, practically, omnipresent.

But think of its power. In the morning of creation it combined with the lightest and least tangible of all its comrades, and formed the fountains, rivers, seas, and oceans. In like manner, by other combinations, it made the solid earth. It seized a bright metal and turned it to lime. It laid hold on the diamond and changed it to a gas. Forcing these to unite, it formed the solid marble. It raised itself on the wings of the wind and became the vital principle of the atmosphere. And having formed the seas, the dry land, and the air, it presided over and took part in the formation of plants and animals to beautify and people the earth. And ever since it has been busy, and still it is powerful. It organizes the forces of its kindred elements, and works wonders at which man stands aghast. We behold the majestic steamer, stemming the river's current or riding on the angry waves, defying the wrath of the mighty deep, mocking at wind and tide, and reaching in safety its destined port, and all through the agency of this grand and glorious element. The ocean having spread itself out as a barrier to the progress of man, this hero-element comes to the rescue. Taking his favorite partner, the delicate hydrogen, he goes into the very heart of the mighty engine, and together, they form its life-blood. He calls for his servant carbon, and fans him into a flame, imparting warmth, and life, and motion, to the mighty machine of his own building; and the ocean is subdued, the winds are overcome, places far distant are brought nigh together, man becomes ubiquitous, and all are neighbors. With the same mighty machine he drags the lightning train across the land, over iron bars of his own forging, laughing at distance and mocking at time. His lightning train over his iron track! Nay, it is thus he travels, at leisure. When pressed for time, he calls down the lightnings of heaven, and sends them forth across land and sea, on the wiry track which he has prepared for their guidance. May

we not well exclaim, O Oxygen, great and marvelous are thy works!

But our hero element is powerful to destroy, as well as to build up. Few, if any, elements have hardened themselves against him, and have prospered. The strength of iron is as nothing with him, and weapons of steel he grinds to powder. Gold becomes as fine dust before him, and silver as the blackness of darkness. He calls for the aid of his servant, nitrogen, and the solid marble melts like snow. Helped by another servant, the flinty rock becomes grass and stubble before him. The leaves wither at his blighting touch, and nature is dissolved by his blasting energies. Let us think, for a moment, of the ruin he has wrought, since creation's morn. The flowers, the trees, the birds and the beasts, of ancient days, have all been swept away by the hand of this ruthless destroyer. He has swept over the earth, and nations have withered, by the blast of his breath. Great Babylon is fallen—is fallen, and by his mighty hand. Where are the cities of the old world? He has burned them to ashes, or crumbled them to dust; and, over their ruins, he raises the shout of triumph, and rushes forward to new conquests. When the whole world had rebelled, he destroyed it by a flood—all its inhabitants save one righteous family, which he carried in his bosom, and wafted, by the genial gales of his balmy breath, to a place of safety. He has broken the ships of Tarshish with his east wind. He has overwhelmed fleets and navies in the mighty deep. Great is the ruin he has wrought, and still he is unsatiated. He forges the thunderbolts of war, and gives to them their destructive energy. He manufactures a cooling salt, which, in the hand of two of his servants, becomes a demon of destruction, hurling forth "firebrands, arrows and death," and imitating the thunders of heaven. Nothing material escapes his destroying hand. He devours the widow's bread, and wastes the fruits of the earth, to create the demon alcohol, that the world may be filled with crime, and men may be changed to devils. He is the merciless ex-

ecutor of that sentence, "Dust thou art and unto dust shalt thou return."

And then just think of his petty annoyances. While he blows the smith's fire, he consumes his coals, and wastes his iron. The surgeon rejoices in his shining blade, and the dentist delights in the lustre of his forceps, but he watches for their negligence and covers them with rust. He withers the leaves of the lady's arbor, and sours the milk in the dairy-maid's pans. No annoyance is so petty that he will not stoop to it. He addles the egg of the patient bird, and molds the food of the busy ant. He breathes into the pantry and the bread becomes stale, the butter rancid, the meal musty and the meat tainted. He rots the farmer's fruits, his farm houses and fences, and turns the housewife's jellies and jams to vinegar. In short, he is prying, petulant and impertinant.

Shall we reverence such an object as this? Shall we even respect it? Nay, shall we not ignore or despise the science that discovers it and reveals its attributes? But why should we not reverence it? Why not even worship it? While sages sacrifice to devils, and savages worship the storm-king, shall we fail to worship oxygen? What if it is the great destroyer of our race? Should we not try to propitiate that which will one day crumble us to dust?

But let us turn from this and think of his goodness. Why, he blesses us every hour—gives us a new blessing with every breath. But how shall we specify his acts of kindness when we owe him our life, and are each moment dependent on him for its continuance. In the earliest moments of our helpless infancy, he breathed into our nostrils the breath of life, and has breathed new life ever since. He allays our hunger, and quenches our thirst, with food and drink adapted to our appetites and desires. He not only surrounds us with good things, but he is so jealous of our welfare that he rushes into and explores every avenue of our bodies lest there may be something there to harm us. He ransacks our entire systems—veins, arteries, capillaries, and cavities—and comes out

loaded with poison twenty times a minute. He makes every pore of the skin an outlet for the purification of our bodies. He kindles a fire to warm us when we are cold, and fans us with the cooling breeze when we are hot. He builds us houses, like palaces, to dwell in, for our comfort and protection. It would seem as if he were determined that man should live always—not only live but that he should riot in all the imaginary luxuries of a fabled dream.

Not content that man should live—that he should breathe the balmy air of a life-giving atmosphere, that he should slake his thirst from the sparkling spring, and eat of that which is good, and delight his soul in fatness—our favorite element overwhelms him with delights, of which he could not even dream, were they not constantly showered upon him as happyfying realities. How he blesses our sight! He clothes the earth with its carpet of green, and covers the forests with the same gay colors.

“Gay green! thou smiling nature’s universal robe”—

And our hero is the dyer that colors that robe. He paints the flowers with their varied hues, he screens the sunset with its crimson vail, and curtains the heavens with the fleecy cloud. And think of his beauty as he glistens in the dew-drops, and sparkles in the rain, or when he spreads the canvas of the storm cloud, and illuminates his face with the day-god’s pencilings, in the hues of the bow of promise. He moistens the eye of the maiden till it glistens with love. He fans her cheek, till it rivals the rose, and bleaches her brow to the lily’s hue. And even when he appears to frown—when the face of nature is wrapt in decay, he makes her beautiful, even in death. When the forest leaves fade—as fade they must, for they are mortal—he beautifies their death robes, with his varied tints, till the eye is entranced with the gorgeous colors, and even the south wind accepts them as a substitute, and no longer

“Searches for the flowers
Whose fragrance late he bore,
And sighs to find them in the wood,
And by the stream no more.”

But not only does he delight the eye, but he charms us with the melody of nature. He teaches the bee to hum, the bird to warble, and the child to laugh. He gives voice to the singer, and tones to the lute and organ. In short, he blesses us through all our senses.

Nor is he at all capricious in the bestowal of his favors. In springtime he moistens the earth with showers, fans it with gentle breezes and bedecks it with flowers. He makes the grass for the cattle, and the tender herb for the service of man. In summer he comes riding on the south wind, and warms and fertilizes the earth. He loads the trees with fruit, and causes the grain to grow, for the sustenance of man and beast. In autumn, he blesses us with the fruits of the earth, and satisfies us with the increase of the ground. The harvest of the earth is ripened by his breath, and the husbandman rejoices in the abundance of his blessings. In winter, he converts even the fierce north wind into a blessing. He scatters hoarfrost like ashes, or spreads it, in silvery beauty, over the window of the sleeper. He covers the earth with snow, and makes us rejoice in the tinkle of the sleighbell. At all times and seasons he is the same kind benefactor.

He disburses his favors not only with a liberal hand, but without partiality. His goodness reaches to all men. Every department of life is blessed by his presence, and aided by his energies. He rewards the labors of the farmer with abundant crops. He brings merchandise from afar, over sea and land, to enrich the trader. He blows the fire for the smith, and turns the mill-wheel and the spindle. He refines the ores of the metallurgist, and melts the founder's metals. To the physician and the dentist he is indispensable. He prepares the medicines of the one, and purifies the metals used by the other. No department of life is beneath his notice. He toils in the kitchen as a faithful servant preparing and baking the bread, roasting the meat, browning the coffee, and drawing the tea. He covers our tables with luxuries, and respects the appetites of the most whimsical. He fills the sails of the

mariner, and wafts him to his destined port. He floats the schoolboy's tiny boat, and carries aloft his paper kite. He furnishes the painter his colors, and the sculptor his clay and marble. He carries the bird in its rapid flight, and goes deep down into the dark ocean, to bless the great whale and the little fish. He stops at nothing in his errands of mercy. Floods can not drown him, and fire is but a plaything, of his own creation. Hight and depth are alike to him, and distance is only his delight. If not revered for his wonderful works, should he not be praised for his goodness?

Here, then, is presented to our consideration an agent, invisible, diffused, mysterious, powerful for good and powerful for evil, that goes about doing good, and, at the same time, seeking what he may destroy, that kills and makes alive, that wounds and heals, whose existence antedates the life of man, which is indestructible as well as unchangeable. However we may estimate it, one thing is certain, that if it had been revealed by our science, in ancient days, the great Jupiter would have been deposed, to at least secondary rank. Had it been known at Athens, the apostle would not have found an altar "to the unknown God," but to the god, Oxygen. And when we reflect on the characters of the gods they worshiped, we are led to pity their ignorance of this wonderful agent, which seems so much more worthy of the homage of their philosophers. But while we pity, let us inquire if our worship of this would be found more exalted and purifying than their worship of beasts and reptiles, or wood and stone.

What, then, is Oxygen? Certainly it is a wonderful thing; for a wonderful God created it. And because it is a creature, and not a creator, it stands on a level with its kindred elements—on a level with birds, and beasts, and reptiles, and is no more wonderful than they. In the light of our science, every thing that God has made is wonderful, and, to us, incomprehensible. Everything is worthy of our admiration; and it is highly proper that the science we are about to study, which has a more extensive range, and reveals more of the

mysteries of the material universe, than any other you are called upon to investigate, should teach us to "look through nature up to nature's God," to see the Creator in all his works, to look upon all the elements as but so many passive instruments in his hand. Till we are able to do this, we have failed to learn the great lesson taught by our science.

But, gentlemen, do you expect to master the science of chemistry, in the few short months we are to spend together? As well might the traveler expect to traverse the entire globe in a single day, and return at nightfall to sleep in his cottage. No man on earth will ever get through with the study of this science. But shall we despair on this account? May it not be

"That one of the joys of our heaven shall be"

a fuller and clearer knowledge of the chemical properties of God's universe, than it is possible for us to have here? But you may expect to obtain, by attention and study, such knowledge of it as will make all future study of it a pleasure, and a source of satisfaction.

Are you discouraged and ready to turn back, on finding that you make so little progress in this science? You have the same cause for discouragement elsewhere; for you have not, and never will have a perfect knowledge of any science; nor would you be happy if you had. Here we know only in part; but there—we shall know, even as we are known.



THE ANATOMY, PHYSIOLOGY, PATHOLOGY, AND REMEDIAL TREATMENT OF THE FIFTH PAIR OF NERVES.

BY J. H. M'QUIDLEN, D. D. S.

(Concluded.)

SATISFIED that no pathological doctrines can command confidence which are not founded upon accurate views of the structure and functions of a diseased part, thus far, in the presentation of this subject, attention has only been directed to the anatomy and physiology of the fifth pair; having dwelt

sufficiently on those points to give at least a general view of their structure and functions, as a natural sequence the pathology of this nerve, and the sympathetic derangements frequently induced in other parts of the organism under such circumstances, very properly command attention.

During the period of dentition the fifth pair is always more or less affected, and in excitable states of the nervous centers the irritation of it consequent upon the pressure of the teeth often gives rise to convulsions and other disturbances of the general organism, so common to that period of childhood. Indeed, the diseases pertaining to this period may be dependent, and in many instances are entirely so, upon the local irritation attending the process being transmitted through either the *cerebro-spinal system of nerves*, producing convulsive diseases in the motor apparatus; or through the *sympathetic nerve*, causing derangement of the alimentary or pulmonary organs.

In illustration of this, two interesting cases came under my notice; one of which, a little girl aged two and a half years, was seized, one morning in the fall of the year, with slight convulsions, which increased in number and severity toward the close of day. Taking into consideration the season of the year, the location of the residence in a region which was formerly regarded as eminently malarious, and the fact that intermittent fever was then quite prevalent, the family physician and myself were disposed to regard it as a case of fever and ague; an examination of the mouth, however, was made, and the gum over the right and left lower second molars being found quite tumid, free crucial incisions of it were made with the lancet. Immediate relief was afforded, and no return of the convulsions supervened.

In the second case, a little boy, about the same age, was attacked with spasmodic croup, an affection which consists in a sudden choking fit, caused by spasm of the muscles that close the glottis, and differing from croup in the fact that there is no fever nor any morbid appearances about the throat;

the disorder being purely functional, and having its origin in irritation of a distant part, which derives its nerves from the same region of the cerebro-spinal centers with the larynx. That such was the case in this instance, was proved by the fact that soon after lancing the gums over the deciduous molars, the difficulty disappeared.

The advice that Dr. J. K. Mitchell endeavored to impress upon the minds of his students can not be too strongly advocated. It was, that when called to the side of a little sufferer, laboring under whatever affection it may—whether cerebral, thoracic, or abdominal—during the period of dentition, to immediately examine the mouth of the patient, and if there should be the slightest evidence of the eruption of a tooth, to employ the lancet at once, making, in the case of the molars, decided crucial incisions.

The affection most frequently presented by the fifth pair, occurring in whatever branch of the nerve it may, and whether originating at the periphery or center, can be classified under the general head of *neuralgia*—a term, it is true, often used in the most vague and indefinite manner by medical and dental practitioners, to conceal from the patient or friends their want of familiarity with the cause of the trouble which they are called upon to relieve. In support of this, numerous cases have presented themselves in which patients were subjected for weeks and months to the most varied constitutional treatment, by the medical practitioner, when all that was demanded was the removal of an exposed dental pulp, or possibly a tooth; and, on the other hand, many sound and valuable teeth have been sacrificed by the dental practitioner, when the source of trouble may have been in some other part of the nerve, or even in a distant organ. Frequently, it is true, the most experienced and accurate observers have been unable to discover the cause or satisfactorily account for the phenomena presented in this affection during the life of the patient; but, fortunately for science, in some instances the *post mortem* examination has revealed in the clearest manner the deep-seated cause of mischief.

In employing *neuralgia* as a generic term for the painful affections known as *tic douloureux*, and *odontalgia*, it is merely used as the verbal definition of a symptom—pain in a nerve. Of this pain there are different degrees of severity experienced, sometimes being moderate, and at others unendurable; the duration varying from intervals of a few seconds to a day, or every other day, or even a much longer interval of time. When severe, it usually comes on suddenly, with a sharp, darting or tearing character, and is either confined to one spot, or it may extend to all of the branches of one side of the head and face. In attempting to discover the cause of this very painful affection, the origin, distribution, and sympathetic connections of the nerve should be constantly borne in remembrance. Thus it may have a peripheral, a central, a reflex, or a general origin.

Peripheral origin.—Prolonged irritation of the terminal extremity of one of the branches, as in exposure of the dental pulp to variations of temperature, the contact of foreign bodies; or in pressure upon the dental pulp, as during the period of primary or secondary dentition.

Central origin may be owing to pressure upon the nerve or one of its branches, from the growth of a tumor, or a spicula of bone, or the periosteal or osteal thickening of the osseous foramen through which the different branches of the nerve emerge from the cavity of the cranium.

Reflex origin may be due to the irritation in some distant organ exciting sympathetic pain in the fifth pair, or *vice versa*, and in the latter frequently with considerable disturbance of the function of the parts.

General origin.—Depressing influences of all kinds are especially likely to produce it; thus, mental depression, debilitating diseases, exposure to malaria or inclement weather, or sudden suppression of any of the important secretions, or of the catamenial discharge, are each and all prolific causes.

By some writers it is asserted that although considerable attention has been paid to the morbid anatomy of nerves af-

ected with neuralgia, nothing has been made out in this direction which throws any light on the nature of the disorder. Dr. Cornochan, however, states that in three cases in which he excised the second branch of the fifth pair of nerves, he found the excised portion red, vascular, engorged, and considerably enlarged; hence he regards vascular engorgement or inflammation, with some of its consequences, of the neurilemma alone, or of it and the nerve together, by whatever cause produced, as the condition which constitutes the pathological changes in the trunk.

Arising, as *neuralgia* does, from such a variety of causes, the diagnosis, though usually effected without much difficulty, is, as already stated, in some cases quite embarrassing. What increases the difficulty in making out these nervous pains is, that they may be produced by some source of irritation situated at a distance from the part in which the pain is felt. As a familiar illustration of this position, if the ulnar nerve is struck at the elbow, a peculiar tingling sensation is felt, not in the part struck, but in the sentient extremity of the same nerve distributed to the little finger. This example proves how necessary it is, when no cause of pain can be found in the part complained of by the patient, to look for the source of irritation in another portion of nerve, or in some distant organ.

In by far the vast majority of cases, neuralgia of the fifth pair has a peripheral origin, resulting from caries of the teeth, and denominated *odontalgia*. Of this there are three varieties: true, false, and sympathetic toothache; and it is in diagnosing these varieties that the ability, judgment, and experience of the dentist is demonstrated. It is also a subject well worthy of the careful consideration of the medical practitioner. The peculiarities presented and the manner of diagnosing the different varieties are as follows:

Odontitis.—True toothache, or inflammation of the dental pulp, is demonstrated by the following evidence: pain, severe and constant, and usually confined to the diseased organ, but

not unfrequently affecting other branches of the fifth pair distributed to the side of the head and face; the pressure of foreign substances, such as particles of food, the edge of an excavator, or the point of a probe, upon the exposed pulp, and exposure to sudden variations of temperature, either of air or fluids, increase the pain, which becomes more intense toward and during the night; added to this may be the visible exposure of the pulp, or, when that is not accurately defined, the oozing of blood or serum into the cavity of decay. In doubtful cases, if on packing a pledget of cotton into the cavity, after the caries has been removed, the pain is increased, and continues after the removal of the cotton, the pulp is exposed; but should it lessen in a few seconds and eventually cease, a thin covering of dentine will be found protecting the pulp.

Periodontitis.—False toothache, or inflammation of the periodontal membrane of the fang, like inflammation in other parts of the body, is divisible into three stages, viz: simple vascular excitement, active congestion, and true inflammation. In the first stage, which is simply a hyperæmic condition of the capillary vessels of the membrane, the circulation through the part proceeding at the same time with unwonted velocity, there is merely a *slight amount of tenderness, which is increased by striking sharply on the affected tooth with the handle of an instrument.* A sense of relief is obtained by gradual and continued pressure upon the tooth, which, however, on being removed, is followed by a recurrence of the tenderness. Should the inflammatory action not cease here, but proceed, *active congestion* will be established, the capillary vessels of the part becoming more and more distended, until farther distention is no longer possible, owing to the confined locality of the tissue; *the most excruciating pain is now experienced, and along with it intolerance of the slightest pressure. On this account, closure of the teeth is avoided, as it but aggravates the evil. Owing to the distention of the blood-vessels of the membrane, the tooth is forced slightly out of its socket, and thus feels longer and looser than its neighbors.*

The pain arising from odontitis or periodontitis is not always located in the seat of difficulty, but is frequently referred by the patient to a perfectly sound tooth, thus constituting sympathetic toothache; for instance, it is not an unusual circumstance for patients to direct attention to a superior central incisor as the cause of excruciating suffering, which, on careful examination, will be found perfectly sound; every argument to convince the patient that such is the case proves unavailing, however, until in the course of the examination the operator touches an exposed pulp in a canine, a bicuspid, a first or second molar, or a wisdom tooth, in the upper jaw, or possibly even in the lower.

The sympathetic irritation arising from odontitis or periodontitis, when extending beyond the dental organs to other parts of the fifth pair, may either be located in the face, simulating *tic douloureux*, or it may, as in the following case, mentioned by Lawrence, not only induce intense pain in the eye, but also bring on impaired vision, or amaurosis.

"Amaurosis caused by a carious tooth.—F. P., thirty years of age, possessing a good constitution, and enjoying good health, with the exception of pains in the head and limbs, which never lasted long, suddenly experienced, in the autumn of 1825, a violent pain shooting from the left temple to the eye and the side of the face; he ascribed it to cold. This pain lasted several days, then lessened, and reappeared from time to time without being sufficiently severe to induce the patient to seek medical aid. In about two months it suddenly increased in intensity, occupying the eye particularly with a feeling as if it would pass out of the orbit. F. P. now discovered that he was blind with that eye, and applied to a neighboring physician, whose treatment, continued for two months, did no good. The pain, however, was no longer continual; it assumed a periodical character, leaving the patient easy for some hours in the day. At the end of the following six months the pain increased, the cheek swelled; some spoonfuls of bloody matter were discharged by a spontaneous opening

in the lower eyelid, after which the swelling subsided, and the pains nearly disappeared, although the blindness remained complete. The discharge was renewed from time to time during the following six months, and there was no great suffering. But in the autumn and winter (1826) the pain, particularly in the eye, became so violent, that F. P. came to Wilna in the beginning of 1827, determined to have the organ extirpated, if no other remedy could be found. Professor Galenzowski found the left eye totally insensible to light, with the pupil dilated, and no other visible alteration. The pain, not then so severe, consisted in violent occasional pricking or darting sensations in the left temple, and parts round the eye. There was discharge from the lower eyelid. The first molar tooth of the left side was carious; it had not caused much uneasiness; and the toothache, when it existed, had not coincided with the pains in the temple and eye. The professor determined on removing this tooth, and having done so, was surprised to see a foreign body at the extremity of the fang. When drawn out, it proved to be a small splinter of wood, about three lines in length, which had traversed the center of the tooth, and had probably been introduced in picking the teeth. A probe was passed from the socket into the antrum, from which a few drops of thin, purulent fluid escaped. The pain ceased almost entirely, and on the same evening the eye began to be sensible to light. Vision gradually improved, so that on the ninth day the patient could see as well with the left eye as with the right, after a blindness of thirteen months; on the eleventh day he left Wilna, to return to his family."

Numerous cases might be cited in which amaurosis had resulted from dental irritation, and been relieved by the extraction of the diseased teeth. Of these it will suffice to refer to one or two only. Mr. Tavers, for instance, "saw an incipient amaurosis distinctly arrested by the extraction of a diseased tooth, when the delay of a similar operation had occasioned gutta serena, or total blindness, on the opposite side, two years before." Dr. Watson states "that the son of a

physician of his acquaintance, in London, became blind in one eye on two or three occasions, without obvious cause, and with no visible change in the organ, and the blindness on each occasion went off, apparently in consequence of the extraction of some teeth which had grown irregularly."

On different occasions, cases have come under my own notice in which the most excruciating pain in the eye has been complained of by patients, which unquestionably arose from dental irritation, as it passed off with proper treatment of the teeth. The only case of perverted function of the eye, however, that my attention has been directed to by a patient, was in the case of a gentleman, who stated that many years ago when under the hands of another operator, he had a right upper central incisor treated, which was very sensitive, and caused considerable pain in the right side of the face and eye; immediately after the operation, he found that he had an attack of strabismus—a difficulty which he labored under, to a slight degree, in childhood, but which had passed off entirely. The strabismus, accompanying the operation, continued for a few days only, when it gradually disappeared.

If, after a careful examination of the dental organs, no cause for the terrible neuralgic pains, known as *tic douloureux*, can be found in the peripheral extremities of the nerve, it must be referred to one of the many causes already alluded to. Of those cases having a central origin, it must be evident to all that the probabilities of a cure are very slight, on account of the impossibility of reaching them with remedial agencies. And it is in these cases where the suffering of the patient is most terrible, their quivering features and restless limbs indicating that the acute bodily pang is indeed hard to bear. The pain is usually restricted to one of the three branches, though sometimes two, and in others all of them are implicated. The second branch of the fifth pair is, perhaps, more frequently affected than either the first or third.

Apparently the most trivial causes are often sufficient to provoke or renew paroxysms of suffering in this affection.

Thus the necessary movements of the face in speaking or eating, a slight touch, a current of air upon the face, or a knock at the door, are sufficient to start it. Individuals whose powers have been broken by advancing years or debilitating diseases, and those who are pale and asthenic, are most apt to be victims. Derangement of the digestive organs frequently accompanies, and, in some instances, is the exciting cause of this difficulty. An interesting case has been reported by Dr. Suesserott, in which the patient had a number of teeth removed, and was subjected to a long-continued course of constitutional treatment without any benefit, until Dr. S. discovered that he was in the habit of swallowing his food, meats, etc., in large pieces, and without any attempt at mastication. On ascertaining this fact, he was directed to pay proper attention to the comminution of his food, and this was followed by the most happy results, the neuralgic affection of the face soon disappearing altogether.

In the treatment of this affection, the first indication, of course, is to remove the exciting cause. When this is dependent upon *odontitis*, the application of the arsenical paste to the exposed pulp and the removal of this on the following day, or, when due to *periodontitis*, the employment of leeches to the gum, and the administration of a mild cathartic, may prove all-sufficient. But if it has a more complicated origin, the endeavor must be made to correct, if possible, whatever is amiss in the system at large, or in the state of particular functions.

In cases where there is a weakened, debilitated condition of the system, the employment of tonics will be found quite valuable; of these the carbonate of iron has generally been looked upon almost as a specific; and the beneficial effects of this remedy is supposed to be owing to its giving firmness to the nervous system, by increasing the quantity of red blood that circulates in it. Combined with the iron, local applications to the affected part, of belladonna, and aconite, have been tried with advantage. The internal exhibition of narco-

tics may also be demanded where there is little or no disposition to sleep on retiring to bed. In cases of an intermittent character dependent upon malarious influences, sulphate of quinia or Fowler's solution will be found most reliable.

When every thing has been done toward improving the general health without affording any relief to the local difficulty, recourse may be had to topical expedients, such as division of the trunk of the painful nerve, if possible, between the seat of irritation and the brain. With this object in view, many years ago, division of the infra-orbital nerve, as it emerges from the foramen, was advocated and practiced to a considerable extent. The relief afforded, however, appears to have been very slight and transitory, and in the majority of cases there was almost invariably a return of the suffering.

In the case of Dr. Pemberton, whose sufferings are described as of the most aggravated character, division of all the branches was made by Sir Astley Cooper, but without avail. This practice, though still pursued, has been to a great extent abandoned, from a conviction that the seat of the difficulty is not reached by it.

Within the past four years, Dr. Carnochan has advocated exsection of the trunk of the second branch of the fifth pair, beyond the ganglion of Meckel, removing at the same time the ganglion, or insulating it and its branches from the encephalon. This operation, which he has performed on three different occasions, is quite a formidable one, and when the cause of suffering is posterior to the ganglion, will prove as unavailing as section of the peripheral extremity of the nerve. The operation, as performed by him, is as follows: The integuments of the cheek are dissected away from the superior maxilla so as to completely expose the anterior wall of the antrum. The anterior and posterior walls of the antrum are then perforated by means of the trephine and chisels. By this means an opening having been made into the sphenomaxillary fossa, the ganglion of Meckel is readily reached and removed. A portion of the inferior maxillary nerve,

about two inches in length, is removed at the same time. Dr. Carnochan states that in the three cases performed by him, the relief afforded by the operation has continued from that period.

Excision of the inferior dental branch of the lower maxillary nerve has also been frequently performed in cases where the pain has been confined to the lower jaw, affording, according to the statement of operators, prompt and enduring relief. In performing this operation, an incision is first made through the integuments over the ramus of the lower jaw. The nerve is then exposed by applying the crown of a trephine upon the bone at a point immediately below the entrance of the nerve into the dental canal.—*Dental Cosmos*.



REMOVAL OF THE LOWER JAW, FOR OSTEO-SARCOMA OF IMMENSE SIZE.

BY GEO. C. BLACKMAN, M.D.

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On the 2d of July, 1859, Lemuel Hinedon, a negro, aged 30, was admitted into St. John's Hospital, for the removal of the lower jaw, which was affected throughout a considerable extent with the disease known as osteo-sarcoma. The magnitude of the tumor caused him to present a frightful aspect. From the history of the case as recorded by Dr. John A. Billings, then resident physician at St. John's Hospital, it appears that nine years before, one of the molar teeth on the right side of the lower jaw became loose, and was somewhat painful. Soon after, he noticed a small tumor on the bone, which, however, gave him no uneasiness; it increased slowly, but steadily, up to the time of his admission. In some parts the tumor was quite hard, in others it had an elastic feel, imparting even the sensation of indistinct fluctuation. Deglutition and respiration not seriously disturbed,

although the power of mastication was nearly lost. On the buccal aspect of the tumor were two small ulcerated patches, through which, he stated, from time to time he had lost large quantities of blood. Just previous to his admission his strength had been reduced by an alarming attack of hemorrhage. The appearance of the patient is well represented in plate I.

The patient having been brought under the influence of chloroform, with the assistance of Drs. Trippler, Foster, Fries and Muscroft, I commenced by making a single curvilinear incision, commencing in front of the ear, on the right side, and passing over the most prominent portion of the tumor, to near the left angle of the jaw. The soft parts were next rapidly dissected from the bone. Both facial arteries were divided, and were found to be much enlarged. The hemorrhage from the left was controlled by pressure, but the retraction of the vessels beneath the huge mass on the right side rendered this ineffectual; and this, together with the gushing from every part of the diseased bone, caused the patient to lose an enormous quantity of blood. Seizing the most prominent part of the tumor with both hands, I wrenched out the largest portion, and the persulphate of iron was freely applied to the bleeding surfaces. The flow was at length checked, but not until the pulse and respiration had become almost imperceptible. In a few moments he rallied, when I proceeded to remove the body of the jaw as far back as the angle. At this point no trace of osseous structure remained. The exhaustion of the patient now became extreme, and it was evident he could not then survive the completion of the operation. Beef-tea and whisky were administered, both by the mouth and rectum. Aided by artificial respiration, reaction was established in the course of half an hour, when the wound was closed, and the patient comfortable in bed. Hemorrhage occurred during the night, but was controlled without difficulty. On the third day the stitches were removed, and the wound was almost entirely united.

He still felt considerably prostrated. On the sixth day, however, he was able to leave his bed, and to walk around the room. Two weeks after the operation he felt as well as ever.

On the 7th August, thirty-six days after the first operation, I proceeded to remove the remaining portion of the tumor. Finding that the cheek hung loose and flabby, I made two curvilinear incisions, inclosing a flap of skin about four inches in width. The neck and condyle of the bone were healthy; but the ramus, with the overlapping structures, was so degenerated and blended that it was impossible to distinguish it. The morbid mass extended deeply towards the root of the tongue. After the division of the integuments, the knife was laid aside; and with the bone gouge forceps I succeeded in breaking up the mass completely, and in extirpating to the articulation. The large mass involving the root of the tongue was raised by an assistant, so that I succeeded with less difficulty than I had anticipated in wrenching out the entire morbid structure. The hemorrhage was readily controlled by the application of persulphate of iron, as fast as fresh portions were exposed by the gouge forceps.

Nothing of particular moment occurred during the patient's convalescence, which was rapid. On the 28th of August he went to work, his health being perfectly reëstablished. He could masticate with ease. Even after the removal of the flap above mentioned, for some weeks, the cheek appeared rather loose, and the motor powers of the right side of the face were greatly impaired, as the portio dura was so intermingled with the degenerated mass that it was necessarily divided, and portions of it removed with the tumor. The parotid gland itself was indeed from the same reason in greater part extirpated. We think, however, that any one, after examining fig. 3, from a photograph taken eight weeks after the first operation, will agree with us that the appearance of his face is very satisfactory. In July last, a year

having passed since he came under our treatment, Lemuel was carefully examined by Dr. Foster and myself, and we could discover no signs of a return of the disease. It may be well to state, in this connection, that there is reason to believe that he has not gone to bed sober a single night since he recovered from the last operation.

There are some points of interest in the above case, to which we desire to call special attention. In the first place, ought not the surgeon, before attempting the removal of so large a tumor of the lower jaw, to ligate the primitive carotid artery? In support of this practice, as is well known, we have the high authority of Dr. Valentine Mott, whose name is so honorably associated with the early history of these operations for osteo-sarcoma.

In the *American Journal of the Medical Sciences* for October, 1856, we published the report of a case in which, for a most formidable osteo-sarcomatous tumor, we removed the *entire* lower jaw. The tumor had been growing for forty years, and had obtained such fearful magnitude that the patient was threatened with suffocation. In that operation, although the facial arteries bled freely, they were readily controlled by pressure until the ligatures were applied. In other cases, where we had removed the lower jaw from the articulation, we had encountered no serious difficulty in arresting the hemorrhage. At the close of our report, to which we have referred, after alluding to other instances in which tumors of this kind, of immense size, had been successfully removed without resorting to the ligature of the carotid, we used the following language: "I will only add, that if in the terrible operation performed by Prof. Syme, as well as by myself, but a few ounces of blood were lost, surely, in operations of less magnitude in this region the ligature of the primitive carotid must be unnecessary." Now, does my case of the negro Lemuel call for a modification of the above opinion? Let us briefly analyze the cases reported by Dr. Mott. We quote from our edition of Mott's Vel-

peau, vol. ii., p. 347. In his first case, Catharine Bucklero, the ligature of the carotid caused her to become "agitated and perturbed to a great degree." This "remarkable agitation" led to the postponement of the operation, which was performed the next day. In reference to the hemorrhage we find the following:

"Very little blood was lost during this operation. Two arteries only of any size were divided, the facial and lingual, and these only required the ligatures to the branch extremities; but each end was tied for safety. Another small artery behind, and a little underneath the posterior angle of the jaw, yielded some blood and was tied." The tumor in this case was of moderate size; yet we find, after the ligature of the carotid, that five ligatures were applied to divided vessels during the operation.

In Dr. Mott's second case (op. cit., p. 354,) the tumor was much larger, presenting "an appearance in size equal to that of his head." The carotid was tied, and *four* ligatures were applied during the removal of the jaw. The operation was performed at noon, on the 15th of May, 1823,* and he died on the 19th at 4 o'clock P. M. The post-mortem showed extensive thoracic disease; "each lung exhibited marks of high inflammation throughout their whole extent;" and within the pericardium was a pint of yellow serum. There was also "a massy deposit" of coagulable lymph in the anterior mediastinum. We shall have occasion again to refer specially to the cause of death in this instance.

In Dr. Mott's third case (op. cit., p. 357) the tumor had been of rapid growth, and was about three inches in its transverse, and from five to six in its longitudinal diameter. The primitive carotid was tied, and yet the report states "the hemorrhage was exceedingly profuse," requiring, we are told, the ligature of some fifteen to twenty vessels."

I am not aware of any other cases reported in detail by Dr. Mott, although Velpeau, in his Table of Cases of Excision of the Lower Jaw, affixes to his name nine cases—two

disarticulations and three deaths. In each of the cases to which we have referred, Dr. Mott removed the bone at the articulation. Dr. Mott is of the opinion that there will be less hemorrhage if the removal of the jaw is performed the day after the ligature of the carotid, as the branches of that vessel will have more time to contract. Now, at page 345, *op. cit.*, we find that M. V. De Lavacherie, of Leige, Belgium, lost a patient from hemorrhage immediately after the operation, although the carotid had been tied the day before. In February, 1848, we disarticulated the lower jaw, where the face was greatly swollen, presenting even a fungoid appearance. The hemorrhage from the facial artery ceased without a ligature; and even that from the trunk, or one of the main branches, of the internal maxillary (caused by an unexpected plunge of the patient), was readily controlled by pressing a piece of sponge into the wound. On the 25th of March, 1848, we disarticulated the left half of the lower jaw, removing the bone (osteosarcoma) from the chin to the articulation. Only one vessel, a branch from the internal maxillary, was tied during the whole operation. In our case of disarticulation on both sides,—removal of the entire bone for osteosarcoma—(*Am. Jour. Med. Sciences*, October, 1856) not more than eight ounces of blood were lost; and in another case where we removed, for necrosis, at the articulation, the hemorrhage was trifling. It was not until we encountered our fifth case of disarticulation—and we had had several operations where the body of the bone was only removed—that our patient had a narrow escape from death by hemorrhage.

Altogether, we have had *five* cases of disarticulation of the lower jaw, a number equal to that of any European, and exceeding that of any American surgeon mentioned in Velpeau's statistics, *op. cit.*, p. 339, vol. ii. In these and in five others in which we have removed the body of the bone, we have never tied the carotid artery as a preliminary step. Our only fatal case is that where we removed the entire bone;

and we believe the numerous physicians who witnessed that operation attributed, with myself, the death to the conjoined depressing influences of chloroform and intense heat, the thermometer ranging during the greater part of the day at 100° Fahr.

In the case of the negro on whom Dr. Mott operated, it may, we think, fairly be a question whether the patient did not die in consequence of the ligature of the carotid. The appearances presented at the autopsy were precisely those mentioned by Mr. James Miller, in a paper published in the *London and Edinburg Monthly Journal of Medical Sciences*, for January, 1842, the object of which was to show that inflammation of the lungs is the most common cause of death after the ligature of the main arteries of the neck. Indeed, Dr. Mott himself in 1820 called the attention of the profession to the fact that the ligature of the primitive carotid may aggravate *existing* pulmonary disease, as was the case in which he resorted to this step to lessen the flow of blood to a fungoid tumor of the neck which he was about to extirpate (*N. Y. Hosp. Med. and Surg. Reg.*, 1820.) The same result followed one of our own operations, in June, 1843, undertaken for the purpose of arresting the growth of a large bleeding encephaloid tumor of the neck. Besides the pulmonary and cerebral difficulties which have been clearly proved to follow the ligature of the primitive carotid artery, there is another fearful risk from the operation. Mr. Crisp in his *Treatise on the diseases of the Blood-Vessels* (London, 1847), has given us the details of twenty-one cases in which the carotid was tied for aneurism, and of the eleven fatal cases—ten only having been successful—five died from *hemorrhage*!

The statistics collected by Dr. Norris and published in the *American Journal of Medical Sciences*, for July, 1847, show the serious character of the operation of ligating the primitive carotid artery; for of one hundred and forty-nine cases, thirty-two were fatal, from hemorrhage, cerebral or pulmonary disease. Here, then, we have one death in four

and seven-tenths cases, from an operation recommended to us by the very highest authority, as a *precautionary* step in the removal of tumors of the lower jaw. The mortality is about equal to that from the latter operation itself—one in four—of one hundred and sixty cases collected by Velpeau.

From all the facts to which we have referred, we feel authorized to reject the ligature of the primitive carotid, as practiced by Dr. Mott, in the exsection of the lower jaw. We expect in a very few weeks to operate in another case, in which the tumor (osteosarcoma) is fully as large as that which forms the subject of the present paper; and we have no idea of applying a ligature to the primitive carotid. Compression, persulphate of iron, and ligatures to divided vessels, are all the means which we expect to employ to guard against hemorrhage.

The case of the negro Lemuel presents another point worthy of notice. Mr. Fergusson, in his *Practical Surgery* (Lond. ed., 1857, p. 668), has given us the following rule in reference to the removal of integument: "Whatever bulk the tumor may be in any part of the bone, the whole of the skin should always be retained; for it will soon contract, however much it may be distended." With all due deference to the opinion of this accomplished surgeon, we maintain that the results in the above case lend no support to the rule inculcated; and even after a year from the time of the operation, notwithstanding our liberal removal of integument, a little more contraction seemed desirable. However, as before stated, we think no one who saw Lemuel before the operation can find fault with his present appearance.

Again, it will be remembered that in our second operation we used the bone gouge forceps to break up and remove the morbid mass. Our experience with this instrument in similar operations leads us to speak of it with unqualified praise. A few months since we removed with it the upper jaw of a lady affected with osteosarcoma, the face, of course, after-

wards not being in the least disfigured. The tumor presented precisely the same appearance as that represented in Mr. Fergusson's work, fig. 357, and for the removal of which Mr. F. made an incision in the mesial line in the hollow of the lip. With the bone gouge forceps in similar cases, and even of much larger dimensions, no external incision is necessary.

Finally, in the case of Lemuel we required two operations to complete the extirpation of the enormous mass. No one ever questioned the boldness or skill of Dieffenbach; and with all his skill and daring, he once thought it expedient in a similar case to resort to three different operations. A graphic description of this case may be found in the chapter on exsection of the lower jaw, in his work on Operative Surgery. The difficulties encountered in some of these tumors must deter any prudent surgeon from the attempt to complete the task at a single operation. In our own case we were well satisfied to bring the patient safely through, even at the second trial.

NOTE.—In the above report, when discussing the propriety or necessity of ligating the primitive carotid as a preliminary step in the exsection of the lower jaw, I stated that I expected soon to operate in a case of almost equal magnitude, and that I should not apply a ligature to the carotid. On the 12th inst. I removed the bone from the articulation on the left to the first molar on the right side, and although the tumor was of enormous size, I had no trouble from hemorrhage, the facial artery alone requiring a ligature. The patient was a female, eighteen years of age, and the tumor was of long duration, but had been increasing very rapidly of late. The exsection was completed in six minutes, and although there was no trouble from retraction of the tongue—which was secured by a cord—there was at times considerable difficulty of breathing, and the patient died in five hours after the operation. A mixture of one part of chloroform and two of sulphuric ether was used as an anæsthetic, and previous to its

administration stimulus was given. Just as I was completing the disarticulation a large vein was divided, and I heard a gurgling noise, such as has been described as indicating the admission of air. The collapse following this was instantaneous, and from it the patient never rallied. The autopsy revealed nothing to shed any light as to the cause of death.

Cincinnati, Nov. 16, 1860.

G. C. B.

PATENT INSTRUMENTS.

BY J. A. MURPHY, M. D.

The propriety of obtaining a patent for a surgical instrument, or appliance, is no longer a matter of discussion among educated gentlemen of the regular medical profession. There is a small class, however, who by no means are liberally educated, or appreciate their profession as a liberal one, who occasionally procure a patent for some imaginary new instrument or appliance. These patented instruments meeting with no favor in the regular profession, are soon forgotten, or are withdrawn from public notice. In most cases in our knowledge, the physician who obtains a patent for a supposed new, useful and wonderful instrument is ruined in practice, and professional reputation. He becomes so absorbed in his pet, that he neglects his business, and travels about from place to place, advertising his instrument in violation of the Code of Ethics of the American Medical Association. What says the Code? In art. 1, sec. 4, we find the following language: "*Equally derogatory to professional character is it, for a physician to hold a patent for any surgical instrument or medicine; or to dispense a secret nostrum, whether it be the composition or exclusive property of himself or others. For, if such nostrums be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and, if mystery alone gives it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also*

reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them." This is not alone the doctrine of the profession of our own country, but it is also of the British, German and French profession. The medical profession is a liberal beneficent one. Its great first cardinal motive is to do good to humanity. In accomplishing this great and holy end, we are a band of brethren claiming the assistance of each other. The knowledge of the profession is common property. Whatever any man may discover that in any way tends to prevent, palliate or cure disease, he is bound to lay on the common altar, if he claims to be a member of a profession, the pages of whose history are filled with the deeds of men whose whole lives have been devoted to the physical relief of their race. At the present time, and, indeed, in all ages, the good and the true physician, the liberally educated gentleman, is publishing his observations of disease—his experience with new remedies—his opinions as to the causes and prevention of disease, so that all may have the benefit. What leads him to this course? Nothing else than that his brethren all round the wide world may use them in the treatment of their fellow-men. His reward is in doing good. The difference between laying down a great law for the treatment of a disease, and the invention of a new instrument, is difficult to be made out. As well might he who experiments with a new remedy claim a patent as he who invents a new instrument. We have given one of the great objections to patent instruments. The other, and in our country the greatest, is that it implies "disgraceful ignorance or fraudulent avarice," and is the habit of quacks of all kinds.

It is the unerring sign of a quack, ignorant of the history of his profession, wanting in the tone, spirit and manners of a gentleman, to obtain patents for secret remedies and surgical instruments, and boast that he has certain knowledge or a particular instrument which no one else in the profession possesses. It is rare to find a regularly educated physician

guilty of such conduct. There is still another reason, and a strong one, which holds against patented instruments. It is that the profession which requires such a high order of preliminary education, and such long and incessant study for its mastery, is brought down on a level with the every day trades and callings of life. The professional man who patents his instruments is leveled with the man without education, without study, who invents a lock, a churn or cider-press. His great idea in seeking to patent his churn or cider-press, is not to benefit his race, but to put money in his pockets. His desire is to put money in his pockets,—benefit to humanity is another consideration. His cardinal principle is to succeed—to make gain, without any respect to his race, or those who may be pursuing the same trade.

Has this been the course of the distinguished and good physician in any age? The great Webster once said, every man is a debtor to his profession. Every true man willingly acknowledges this debt, and strives to repay it by giving over the best results of his labors.

Let every man, then, whose genius may originate a new remedy, or whose generalization of a large number of well-observed facts may enable him to enunciate a new law, or who may contrive a new instrument, freely and generously give them to his professional brethren without money and price, and without the restrictions of a patent. Not only will his profession honor him, but humanity will call him blessed. In this course is the profession to be kept above quacks, and all those who regard it as a trade. It should never be forgotten that the profession, and the world at large, gives the full meed of praise to all who are true, generous benefactors of their race. It is a fact, we believe, that many of those instruments which now bear the inventors' names, were never patented, and it is no less true, that of the various surgical instruments and appliances which have been patented in our country in the last twenty years, the fewest number are even now heard of, much less used. There is no practical difference or distinc-

tion between those who patent a pill, a balsam or a plaster, and those who patent an instrument. It is disreputable, unprofessional, and opposed to the acquirements of all who attain to the position of gentlemen, good physicians, and scientific men. Who are the men whom every now and then we meet with or read of, who have patented some miserable fracture-bed, or an instrument by which every man may extract his own teeth, or a painless and harmless pain-killer, or a cough syrup which will cure every cough! Need we say they are sheer adventurers, traveling mountebanks, and persons of the most shallow pretensions. It is well, then, for every man to know, that he can have no position in the regular profession, or be acknowledged in medical society as a gentleman, if he procures a patent for an instrument. He is a quack, and a quack he must remain. He is ranked with the class of so-called Eclectics, Homeopaths, Spiritual and Water Doctors, and with that class of advertising scoundrels, who fill the newspapers with lying advertisements; with that class who advertise to a credulous and ignorant public, that after years of study (!) they can cure certain diseases, without the knife, or any medicine; or with that class of swindlers who practice all systems, according as their patients may desire. There is but one standard of respectability in every profession. For our profession we have the Code of Ethics, which forbids the procuring, holding, using or attesting to the benefits of patent instruments, and all those who are gentlemen, and friends of a dignified, learned, and time-honored profession, will give their cordial support to the Code in letter or spirit; quacks have no code, and especially despise it, for the reason that it draws a broad line between them and the members of the legitimate profession.

REMARKS.—The principles alluded to in the above article are equally as applicable to each department of medical and surgical practice, as to the whole, and the same arguments are operative in their application to the practitioner of a specialty, as to the general practitioner. The correctness of this

is apparent to all. True medical men maintain everywhere that this is a correct principle.

The practitioner of specialties have, as a general thing, been in bad repute, with the regular medical profession. It is true there are, and always have been, some noble exceptions. This want of affiliation of the general for the special practitioners has originated chiefly from two causes. The first is a want of genuine, scientific and professional knowledge. The great body of specialists have been little else than ignorant pretenders. The second is, that the specialists have usually indulged in practices which have been accounted unprofessional and illegitimate. No one should expect to be received in full fellowship, or even recognized, while pursuing such a course.

That specialists have, as a general thing, been ignorant of the fundamental principles of medical science, without which they are totally unfit to practice in any department, their history abundantly proves; and that they have ever been doing that which is accounted unprofessional and illegitimate is as clearly proven by their history. I propose a few remarks on only one particular of this subject, viz: that which is referred to in Dr. Murphy's paper—"the procuring patents on anything pertaining to the profession."

The dentist, who advocates patents for anything pertaining to his profession, arrays himself against the opinions and judgment of the best and most intelligent medical practitioners of this and other countries, and at once forfeits their regard for and appreciation of him as a professional man; which would be gratifying, at least, to every true man to possess. This loss always far more than counterbalances all that is gained by the procurement or advocacy of patents. The principle upon which the medical profession repudiates patents, we doubt not, is pretty fully understood by all, at least, by all intelligent dentists. The extra tax or cost of that which is patented, where it is intimately connected with the relief of human suffering, constitutes one strong objection to professional patents.

Nothing should be done, to place that which is designed for the relief of disease, out of the reach of any. What would have been thought of Jenner if he had hedged about the discovery of vaccination with a patent, so that it could not be used without paying him a bonus? He would have received, and merited too, the burning indignation of a civilized world. He might have made all the pleas now made in justification of a patent, he might have argued that it would be a great benefit to mankind, that they would receive far more than it would cost them, even though they did pay a patent fee; that he was poor and needed the money, and a great many people would use it who were abundantly able to pay; that he had expended time, money and labor in studying those things, which brought about this result. Would the world, to say nothing of the medical profession, receive as valid, such excuses for patenting the process of vaccination.

Every argument that can be adduced in favor of dental patents, will sustain with equal force, in any and every particular, patents in the medical profession. If one medical man may obtain a patent and deal in them, another may, so then all, both the high and the low, the humble and the mean may become hucksters in patents. One great and almost universal argument, brought forward in support of dental patents, is that every one should be rewarded for expenditure of time, money and energies; if a person spends his time, money and energies, aye, even racks his brain, and produces nothing, how shall he be paid and who will do it: he has done the same as another, and with just as good a motive too, but the result has not been the same, nothing has been produced: now, does anybody propose to pay the man who has expended much time, large capital and great energy, simply because he has done so: the man is yet to be found who has acted upon that principle. Again, as an evidence that there is nothing in that kind of an argument, those who are disposed to buy patent articles, do so because of some supposed value in the thing itself, independent of the investment of

time, money and energy, which the inventor may have made. Men often pay as much, or more, for a patent, the whole plan of which flashed into the mind in ten seconds of time, as for those that cost years of toil and study. The thing accomplished is that which is taken into consideration, and not the manner of its accomplishment.

Again, it is maintained that it is the best manner of disseminating a good invention. This is fallacious. Anything that has real merit, will be disseminated, whether patented or not. Would vaccination have been more generally employed if it had been patented; and so with any other really valuable process, instrument or appliance. The tendency of a patent is to restrict the use of that to which it pertains, and for two reasons; the feeling of opposition that exists with so many physicians and dentists against a patented article or process, prevents them from obtaining or using it; and again, the additional tax imposed by a patent prevents many from employing the instrument or appliance to which it pertains.

The history of dental patents shows a fearful record of disappointed and broken down inventors, one that should, we think, be quite sufficient to discourage any one who contemplated procuring or dealing in dental patents. Three-fourths of the instruments or processes, for which patents have been obtained, are without merit, and consequently require a great pressing, to make them amount to anything. Inventors usually see more in their inventions than any one else, and generally anticipate great gain from them, and so they abandon the practice of the profession to engage in pressing the claims of their invention, and in vending it. This, generally, results in great loss, and not unfrequently in complete ruin, pecuniarily. Many examples of this kind in the dental profession will occur to the mind of every one.

Not one in twenty who obtains dental patents ever makes money by them, and every one who does so loses cast with his profession, and that, just in proportion to the elevation of the position which he occupies.

Now, if the dental is a branch of the medical profession, and seeks to be recognized as such, and if obtaining or dealing in patents is in opposition to the feelings, the judgment and the code of ethics of the medical profession, and since such a course is always derogatory to professional standing, and in almost all cases attended with pecuniary loss, is it not better to ignore the whole matter of dental patents, cast them away, and have nothing to do with them. It is said that men should be rewarded for their valuable inventions. To this we have no objections, but the record shows that patenting an invention is not a money-making operation to the inventor at least.

If any one, in his great liberality, desires to reward an inventor, he can do it without buying a patent. Those in the medical profession, who have made valuable discoveries and given them freely, have received much more in the way of honor, and pecuniary reward too, than those who have pursued a hedging, exclusive course.

There seems to be a disposition upon the part of some to make a distinction between patenting an instrument or appliance and a process. Practically and in effect we can see no difference. It is quite as proper to patent the process of extracting a tooth (if it were possible) as to patent the instrument with which that operation is performed; it is just as legitimate to patent a particular method of filling a tooth, as to patent the instrument with which that operation is performed. The chief moving inducement in procuring and dealing in patents is gain, it is for self, and not for the good of mankind, and in this respect it is greatly at variance with the profession of medicine, in all its branches, the glory of which is that it has for its chief and great object good to humanity, relief from suffering, deliverance from disease, that fell destroyer of the human kind.

T.

Proceedings of Societies.

MINUTES OF THE CINCINNATI LOCAL DENTAL ASSOCIATION.

CINCINNATI, Tuesday Evening, Nov. 13, 1860.

Local Dental Association met pursuant to adjournment at the office of Dr. Cameron.

Members present—Drs. Richardson, Taft, H. R. Smith, H. A. Smith, Wells, Wheeler, Cameron and Davenport.

Minutes of the previous meeting read and approved.

On motion of Dr. RICHARDSON, the rules were suspended to take some action in reference to the death of Prof. ЧАПИН A. HARRIS, of Baltimore.

On motion of Dr. Richardson, a committee of three was appointed to draft resolutions expressive of the feelings of the members of this Association, in reference to the above. Drs. Richardson, Taft and H. R. Smith being appointed retired, and shortly presented the following preamble and resolutions, which were adopted, viz:

Whereas, The members of this Association have heard with emotions of profound sorrow of the death of Prof. Chapin A. Harris, of Baltimore, it is most proper, that as members of the same profession, we should give fitting expressions to the sentiments of grief which effect all hearts alike in this great calamity; and,

Whereas, In obedience to a common impulse of love and gratitude, we desire earnestly to bear testimony to the eminent rectitude of character which distinguished the private and professional relations of Dr. Harris in life, and to express our appreciation of the great and distinguished services which have deservedly won for him the proud title of "Father of American Dentistry," therefore,

Resolved, That we deplore the event which has filled the hearts of his bereaved family with a sorrow inconsolable, and which has robbed the profession of one of its best, most able and venerated professors, and mankind of one of its leading and most distinguished benefactors.

Resolved, That in the private life and character of Dr. Harris are exemplified those virtues that command our unqualified respect and admiration, and are in all respects worthy of studied imitation.

Resolved, That the great and untold blessings and benefits, which, in the several capacities of author, teacher, and practitioner, Dr. Harris has conferred on mankind and the profession through thirty years of laborious and unremitting devotion to the cause of Dental Science, merits and receives our warmest gratitude, and for which his honored name shall remain forever "green in our memories."

Resolved, That we tender to the family of the deceased our heartfelt sympathies in their great affliction, and the Secretary be instructed to forward to the same a copy of these resolutions.

Resolved, That we extend to Prof. James Taylor an invitation to prepare and deliver to this Association, at its next regular meeting, an address upon the life and character of the deceased.

J. RICHARDSON,

J. TAFT,

H. R. SMITH.

Dr. Richardson was appointed to wait upon Dr. Taylor and inform him of the wish of the Association, as above.

The discussion of the question, "How soon after the extraction of the natural teeth should artificial dentures be inserted?" was then opened by Dr. RICHARDSON, who read a paper upon the subject. The paper being incomplete he was requested to complete and hand it to the Publishing Committee.

Dr. Taft was appointed to act on the committee in the room of Dr. Richardson.

Dr. RICHARDSON referred, *verbally*, to an objection sometimes urged against the very early insertion of artificial dentures, that "the plate would prove an irritation to the gums." He thought this was a mistake, that the plate would be a protection rather than otherwise.

Dr. H. R. SMITH, considers the circumstances of each case. In partial plates prefers to wait, because if it be an atmospheric pressure plate, the change in the gums will soon loosen

the plate; if cheap work, the cheap teeth will soon have to sustain all the weight of the plate. In full dentures recommends immediate insertion, owing to the action of the masseter and buccinator muscles, the proper angle of the jaws is destroyed in the patient who goes without teeth. After extracting the natural teeth, trims off the alveolus rather than the gum. In making substitutes fills up the sockets on the model. Refits the plate after two or three months. Unless this can be done, dissuades from temporary work. Have refitted a plate as often as three times. Thinks the time can not be fixed when the gums have entirely ceased changing. Unless temporary work can be inserted immediately, prefers to wait two weeks.

Dr. WHEELER sometimes inserts teeth immediately, prefers to wait two or three weeks. The relation of the jaws and the expression of the face is better preserved by temporary work. Does not allow the plate to extend into the sockets of the natural teeth.

Dr. WELLS inquired if there was not danger in trimming the alveolus, of producing too much absorption.

Dr. H. R. SMITH thinks not. The object is to trim no more than would be removed by the process of absorption.

Dr. RICHARDSON—After extraction, patients often complain of pain around the sockets of the cuspid teeth, which may be relieved by dividing the mucous membrane, and breaking down the process. Does not think cutting away of the process will make any difference in the form of the ridge, unless the cutting has been too deep.

Dr. CAMERON—Wait from ten days to two weeks—never allow the plate to extend over the outside of the gum. Generally use gum teeth.

Dr. TAFT inserts as soon as possible. The changes in the use and motion of the lower jaw begin at once and should be remedied. Persons without teeth soon lose the proper use of the lower jaw. There is less soreness of the gums if the teeth are inserted at once, than if otherwise. The early in-

section relieves pronunciation. Sometimes use gum and at others plain teeth. Mentioned a case of a lady, seventy-five years of age, for whom he inserted a full set of continuous gum work, two or three weeks after extraction. In a short time she spoke very distinctly. They would often rattle in the mouth during mastication—substituted rubber in the upper jaw—difficulty not removed—is unable to account for it.

Dr. H. R. SMITH referred to a similar case.

Dr. TAFT thinks temporary partial pieces are not as necessary as full pieces, but generally inserts them.

Dr. RICHARDSON—In twenty-four or forty-eight hours after extraction, the gums become sore and tumefied. Thinks a plate inserted then would give pain.

Dr. TAFT—There is not, *generally*, any tumefaction, unless in an inflammatory diathesis; even if there is, the pain caused by the insertion of a plate, does not last longer than two or three minutes.

Dr. H. A. SMITH—Practice very similar to the others. Thinks the upper teeth are retained with more difficulty if not immediately inserted. Finds trouble also in obtaining a correct bite. Does not think the plate being swaged into the socket will hinder the deposition of matter.

Dr. TAFT suggested that lining the plate with rubber was better than re-swaging; gives a good fit and saves re-arranging the teeth.

Some cases of *so-called* painless extraction of teeth were given by different members.

Dr. H. A. SMITH presented a case of irregularity, and asked the best method of treatment. Opinions were given by different members.

Dr. MERIT WELLS was appointed essayist for next meeting.

Question for discussion—"What are the conditions indicating the extraction of the deciduous teeth, and the best method of performing the operation."

Adjourned to meet at the Dental College, on the 2d Tuesday evening of December.

T. F. DAVENPORT, *Sec'y.*

Editorial.

DEPOSIT OF SECONDARY DENTINE.

THE subject of secondary dentine elicits a good deal of attention in the profession. Dr. Rogers, if correctly reported, presented a rather new aspect of the subject at the late meeting of the American Dental Convention. As reported in the *Register*, he says: "Another practice has been to cleanse out a large cavity, then take a piece of gold plate, bending the corners, so as to form feet. Place it in the cavity to form a stool, leaving all empty beneath, and filling with gold on this stool; in removing the filling, found the feet of the stool imbedded in new dentine."

Now, while it has been generally admitted that the pulp, using the term in the wide sense, is capable of depositing dentine, it has not been generally supposed that the circulating apparatus of the toothbone has energy sufficient to carry forward, throw out and organize osseous tissue, beyond the limit of its own extension. But Dr. Rogers is a close observer; and if he has seen new dentine formed under the circumstances above described, he has witnessed a very interesting physiological phenomenon, and has revealed a fact that must revolutionize the views of many of us on this subject; for when *facts* travel, theory must clear the track. But if the circulation through dentine has such power, it is strange that Dr. R. can not trust that of the perioosteum, in favorable cases, to make a little deposit under the stool. It seems, to us, better able to "go to stool" than dentine. W.

The Physicians Pocket Mamorandum : for 1861. By C. H. CLEVELAND, M. D. Cincinnati, B. Frankland, Printer.

THIS is truly a *multum in parvo* pocket companion. It sets out with a list of medicines, very minutely classified—classes, divisions, orders, etc. This part of the work is, indeed, unprofitably full and minute. Moreover, it would be improved by more careful

or more scientific proof-reading. We open, at random, and find, at the head of page 20, "Ammonia Carbonas," "Potassa Nitrici," and kindred specimens of medical nomenclature; and on page 21, "Calci Chloridi," and "Zinci Chloridum." And the same thing that is called "Ammonia Carbonas" on page 20, is "Ammonia Carbonatis," on page 21. Or, if it is thought these are isolated cases, turn back to page 19, and the first thing we see is "Aurum Chloridi," which means *gold of chloride*, but is there translated "*Chloride of Gold*." And in the same order we have both "Iodide of Potassium," and "Potassæ Iodidi," and the dose of one is "grs. ij—grs. x," and of the other, "grs. v—grs. x." Such faults as these are as abundant in this department as flies in a summer kitchen.

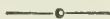
Another department consists of "Abbreviations used in Prescriptions," and is very full. Another chapter relates to "Accidents and Emergencies." For convenience these are arrayed in alphabetical order. On "Poisons and Antidotes," it is very minute. If this whole department gave artificial respiration a little more prominence, we would like it better. The book contains, also, instructions for Post-mortem Examinations, Preservation and Embalming, and brief suggestions for the prescription of medicines. The main body of the book is composed of pages conveniently arranged for physicians' memorandums. It is well gotten up as to paper, binding, etc., and the practicing physician will find it a desirable pocket companion. Price, \$1. W.

OUR OPINIONS.

WE are frequently called upon to give our opinions, upon points of practice, and various professional matters; this we consider proper enough, provided it is done in a legitimate way and with a proper spirit. If we possess any knowledge on matters of practice, that will be of value to any one, we will gladly impart it—for what we have in that way—is free as the wind, but we would prefer to do it in our own way; at least, we would rather not write the same opinion over more than *twenty-five times*.

We endeavor, as faithful journalists, to give fully the merits and demerits of any instrument, appliance, process or material, that may be presented to the profession, or that may be of interest. Our

opinions in reference to these things are fully and freely set forth in the pages of the Register. And now there are two classes of persons for whom we have a word in regard to this matter; and the first is, those who take the journals, but never read them. We have had some such, write us long letters of inquiry in regard to some subject that we had, perhaps, spent hours in explaining, in, as we supposed, a clear, concise, and understandable manner, upon the pages of the Register; and yet they had not seen it, for in it were the answers to their questions. Now, to such we have to say, if you have read the Register carefully all along, and have farther questions to ask, we shall be glad to have them, and answer them, too, if we can; and if we can not, we will endeavor to get some one who can. The other class is, those who do not take the Register, nor any journal that they will have to pay for, but calculate to keep themselves posted by writing long *penetrating* letters to those whom they suppose can answer their questions; for example, we received a letter, a few days ago, from a dentist, which contained four closely written pages of foolscap, making a great many inquiries about the most common-place subjects and things which have been discussed freely in the Register, and, indeed, in all the journals. Now, we should much prefer, so far as time and labor is concerned, to send him the Register for one year; but we did not do that, nor did we write out a reply to his questions, but gently hinted to him how he could obtain the desired information. T.



RICHARDSON'S MECHANICAL DENTISTRY.

This work is just issued by Lindsay & Blakiston, of Philadelphia. It contains four hundred and twenty-seven pages. The mechanical execution of the work is of superior style. We have, as yet, only had time to glance at the work, but are much pleased with its arrangement and the manner in which the subjects are treated. It is more systematically arranged, and treats this branch of Dental practice more fully than has hitherto been done. We propose in the next number of the Register, to make some notes based upon a more minute examination of the work. We hope the work will meet with a ready sale, and large circulation which it richly merits. T.

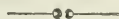
"MENTAL MISGIVINGS, AND MANY FEARS."

IN referring to an article of ours in a preceding number of the Register, our friend, Dr. Pease, says in this number, " And though it is apparent that he has a kind feeling for the nerves, * * * and is willing to lend them a helping hand, and, by trusting them, give them a chance for their lives, it is obvious he does so with some mental misgiving, and many fears." This is true. And we never gave helping hand to a compound fracture, giving the fractured limb a chance for its life, by trusting it, without *some* mental misgivings, and *many* fears. Still, compound fractures are sometimes healed ; and exposed pulps are sometimes saved. Dr. Pease's article is of the kind we like to read. It will bear reading several times. But we fear he labors under a very common mistake in believing that a wounded pulp can not heal, except by first intention, without suppuration. Let us suppose that the exposed pulp is wounded slightly. Now, if we apply creosote, or tannin, till it acts to the depth of the wound, we have just the same state of affairs that we would have, if we applied it with the same force to an unwounded pulp. That is, we have a dead, non-putrescible layer on the surface, and living pulp tissue beneath it. The dead, superficial layer, is either a carbolate, or a tannate, the active principle of creosote being *carbolic* acid, and tannin being merely a commercial name for *tannic* acid. But neither the carbolate nor the tannate, thus formed, is putrescible ; hence, those who are frightened at the thought of decomposing, dead matter, between the pulp and the filling, may banish their fears. It should be remembered, too, that the dead layer, thus formed must exactly fit the living surface beneath it ; consequently, as its texture is everywhere the same, it causes no inequality of pressure. But some anticipate a difficulty here, from an inability of the living parts to adapt themselves to the new state of affairs. They claim that the part acted on by the escharotic, as soon as detached from the living tissue, is dead matter, and begins to decompose ; but they forget that it is dead, as soon as acted on by the escharotic—before it is detached—and that, by its combination with the escharotic agent, it becomes non-putrescible. When detached, it lies there and acts as a non-conductor, under the filling. Others, however, claim that in the process of detachment, there must be effusion, or suppuration. Now, it is evident that soft

tissues may and often do, heal either without any effusion, or the effused matters are re-absorbed without producing any inconvenience. When engaged in general practice, our favorite treatment for indolent ulcers of small diameter, was to apply over their entire surface, an active escharotic, capable of forming insoluble precipitates with their albuminous matter, and then to seal them up, perfectly air-tight, and leave them to work out their own salvation. They usually filled up, by a sort of "modeling" process, and without any evidence of either effusion or suppuration between the living parts and the escharotic layer. We have treated ulcers of the pulp (not alveolar abscesses) in the same way, and, in many cases, with like results.

But no one should infer that we regard the exposure of the pulp as a trifling matter. We, too, almost hold our breath, as we approach the pulp cavity, with a cutting instrument. When the pulp is exposed, we have nothing like an assurance that it can be saved alive; and when it is extirpated, there is little assurance that the tooth will retain a healthy vital connection with the general system. In either case, when the constitution is good, and the patient is temperate and *cleanly*, a favorable result may be expected. But every observing dentist knows that a pulpless tooth, even when filled "to the extremity of the fang," is very liable to decline in vitality, like a tree that has lost its tap-root, till the vital powers of the system regard it as a foreign substance, and undertake its expulsion. When the public mind become so fully awake to the importance of this subject, that all will have their teeth so closely watched, and so promptly attended to, that dentists will have no occasion either to treat or extirpate exposed pulps, then our profession will enjoy its golden age, and will answer the great end of its existence.

W.



THE MALLET.

B., of the American Journal of Dental Science is surprised to see the mallet recommended in the operation of filling teeth. We do not see why he should be surprised, except that he knows nothing about its use for this purpose. He remarks that "nothing can be more unnecessary, and unsafe, than its use in many of the delicate operations of the mouth." Nothing could more clearly

exhibit B's ignorance of this *necessary* and very *safe* instrument in the operation of filling teeth, than the above remark.

He will be still more surprised if he will introduce it in practice, at the results obtained.

We have elsewhere spoken of the advantages to be derived from the use of the mallet in filling teeth. We have for almost a year past used this instrument in more than nine-tenths of the cases of filling, and feel so well satisfied with it, that we expect to use it as long as we fill teeth.

Quite a number, within the last year, have introduced it, and we know of none of them who have abandoned it. All who have become familiar with it are much pleased. We advise B. to try it, and he will find the following things: that he can operate with far less fatigue to himself, he will make better fillings, and it will be less objectionable to the patient than hand pressure and that the patient will feel far greater security from accident.

Does B. ever have an instrument slip and wound the soft parts, and give his patient a paroxysm of fidgets; nothing of that kind can occur in the use of the mallet. B.'s sneer at the "tooth carpenters" is wholly gratuitous. Is the surgeon a man carpenter because he uses a saw, a chisel, and a mallet, and boring machines? Of course he is according to B.

We care but little about the name, or kind of instruments we use, provided they enable us to perform the most perfect operation.

We intend to use, and endeavor to have others use those things that will give the most perfect results, though it should surprise B.

T.



THE FIFTH PAIR OF NERVES.

We hope every reader of the Register will procure a copy of the beautiful plate lately published by Jones & White, representing the Anatomy of the Fifth Pair of Nerves, and, aided by it, and any other facilities he may be able to obtain, sit down and study Prof. McQuillen's article, which is concluded in our present number, as an ambitious schoolboy would study for a prize. He will gain a prize by so doing.

W.

BUSINESS NOTICES,

GOODYEAR vs. TOLAND.

It is a source of much regret to me that the case of Goodyear vs. Toland, in the United States Court, for the Southern District of Ohio, in which I am charged with infringing the Goodyear Patent, by manufacturing or causing to be manufactured, Vulcanized Rubber Plates for Dental purposes, has not been decided upon the demurrer filed by myself in order to bring the case to a direct issue. Everything in my power has been done to push the matter, but the business before the court has been such as to preclude the possibility of reaching the case this term. I am extremely sorry that circumstances beyond my control have caused this delay. I wish my dental friends distinctly to understand that I am not dead, nor sleeping over their rights or my own, the case will be carried through by me, not from motives of malice or obstinacy, or from any hope of pecuniary benefits, that may accrue in event of a successful issue, for taking any view of the case, the result whether favorable or not—in that respect—will be a loss to myself, but actuated by motives of principle and duty, even though at a pecuniary sacrifice, I shall raise my voice against imposition, and protect as far as in me lies, the profession against such.

A great deal has been said about the American Hard Rubber Co. heretofore. I would not now introduce the subject again to the profession, but let the matter rest, until the termination of the contest with me—were it not that numerous letters have been received by me from my dental friends, asking advice as to how they shall answer threatening letters sent by the Agents of the American Hard Rubber Co., demanding payment for notes given for licenses, "whether they shall pay &c." these of course I can not advise, it is for them to determine how far the debt is due in point of conscience, and how far the fact by which it was promised, is or is not valid on account of the consideration. To those who have been threatened with suit for infringement, I can only hold out my course, leaving them to decide, without advice upon my part, whether to follow or not.

B. W. Franklin, the Agent of the American Hard Rubber Co., says in a letter to a friend, shown me, that "he" "the aforesaid Franklin, understands the matter—that he is satisfied beyond a doubt that Toland will be defeated." I mean no reflection on the gentleman by saying, that he may be mistaken—most men believe their own opinions to be correct. If a man were to go so far as to say, that he could conquer prejudice still it ought only to be admitted that he believes so—the frailty of human nature forbids complete confidence in any case. But here we have an exception—it was a great mistake upon the part of the American Hard Rubber Co., that they did not employ Dr. Franklin to conduct this case, and Dr. G. F. Foote to collect the testimony. I regret exceedingly for the sake of the Company, that Gall and Spurzheim, the eminent propagators of the philosophy called Phrenology are dead, for could they have surveyed the heads of this illustrious pair, they would declare "you are the men." I confess that in that case the result would have been doubtful, but since they have taken up with lesser lights, *I am* hopeful.

Whatever may be the result in this case, I feel sure, that this my determination and course, will never be regarded by the profession as a mark of arrogance to myself, but that they will on the contrary esteem it the strongest evidence that can be given of my fixed resolution, conscientiously to discharge my duty to them as well as myself. This determination was not taken without full knowledge of the difficulty and vexation to be encountered. I had too much knowledge and experience in human affairs not to foresee that it would bring me into conflict with the interests of a moneyed monopoly, which were perverting the rights of the profes-

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sion and their common good to the advancement of its own particular prosperity. I have long since learned to hold in contempt all obstacles when in the discharge of what I believe to be my duty, and to hold myself as nothing and the rights of the profession everything.

The controversy between the American Hard Rubber Co. and myself in the outset, arose simply on the ground that they claimed more than their purported patent covered and though I have always been satisfied in my own mind, that their so-called patent was invalid and could be proved so if fairly contested, still I was willing to let the matter rest, if undisturbed myself, and would have done so, had I not been made a target of gross attacks, and subjected to repeated annoyance by their agents, which borne for a long time, patience at last ceased to be a virtue, and in fact directly charged with infringing, to use their own words, the Goodyear Patents, therefore, though willing at first to exhibit a spirit of forbearance, I am forced upon the defensive, either to admit the validity of the so-called Goodyear Patent, and totally disregard my honest opinions and convictions, or to take up arms and fight what I have always believed an imposition and sustain the voice of conscience and duty. What man believing this would or could have done otherwise? I am satisfied the law will not sustain them upon the facts unless, (I regret that the thought will force itself upon my mind,) the boasted wealth of the Company be used to pervert their honest opinions. I make no charge against the Company upon this ground, nor would a suspicion cross my mind, had not their agent boldly vaunted their untold wealth, and asked how I could expect to maintain my ground against this.

It has been my good fortune since the commencement of this controversy with the Hard Rubber Co., to meet with a number of persons well acquainted with the subject matter in dispute—men whose knowledge not only extends throughout this country but Europe, men whom I am confident will testify truly upon the witness stand. Such being the case, I flatter myself that my confidence in the success of this suit has not been misplaced. I speak advisedly.

That the controversy is one in which the Dental profession are interested, the letters I have received from various quarters are ample testimony; these letters are simply requests that I should make out subscription lists for funds necessary to defray the expenses of the contest, in which they offer liberally to subscribe. I am extremely thankful to the profession for their tangible regards and offers in this matter. The case, as I have said before, will be defended and carried to the utmost limit of the law by myself upon principles of duty and hatred of imposition. I shall neither seek or encourage any reimbursement for what I consider my duty and the rights of the profession; it is truly gratifying, however, to know that I am not alone in the love of justice and an opposition to all unjust *monopolies*.—"Let justice be done though the heavens fall."

TOLAND.

THE DENTISTS MEMORANDUM BOOK OF ENGAGEMENTS AND MANUAL OF READY REFERENCE, published by Jno. T. Toland, for 1861.

This is one of the most convenient little works ever published. Serving in the most convenient and economical way the appointments, as well as a record and account-book, and being a compendium of valuable formulas for references in daily practice.

Dentists, if they realize their own interest, will each of them, at once, send the price, ONE DOLLAR, and get one.

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Don't read this unless you are deeply interested, otherwise you will find it a bore.

"VULCANITE—A. H. R. CO.—ROPES."

The November No. of the "Vulcanite" devotes ten pages of its valuable space to the re-publishing of copious extracts from all the various articles which I have from time to time written on the subject of vulcanite work and the Goodyear patents. This liberality on the part of the American Hard Rubber Co., deserves the thanks of the entire profession; as it places before them, in a compact form, the various stages of process, step by step, up to the present state of excellent simplicity.

The object is to attempt to show that I have at different times expressed different views on the subject—that I did not all the time keep and recommend the same kind of materials, &c.; but we should be willing to accept good from whatever source without questioning the object or intention.

It is true that I have changed, from time to time, as new light and greater experience developed new facts, or brought to my intelligence new ideas. *None but fools never change.* It is the part of wisdom to change by constant improvement.

There is not one word or sentence which I have written that I would now recall, but am perfectly willing to stand by the record; in so doing, I must not be held responsible for articles copied from other journals and written by other persons, nor for advertisements of other people's goods, written by themselves, without my endorsement. I kept the profession posted up, step by step, whilst others were "waiting for facts."

Two years ago, the Heater for vulcanizing was a cumbersome cast iron steam chest which could be used only in connection with a steam boiler; later, Warren & Banks' Heater was introduced and sold at \$50, with innumerable joints, stop-cocks, &c., for Leaking, &c.; it was then thought ruinous to permit the flask to touch the water, next comes Roberts' Coal Machine, then the Gas and Alcohol Heaters; then it was found that it did no harm to let the flask get into the water; and more recently it was found, that to immerse the work entirely *under water*, not only saves time but makes better work; it seems now to be brought down to the most economical simplicity, and yet I will not be surprised if in another year improvements should occur which at present are not even thought of—nor should I then expect to be denounced because I had a year previous given all the information that could be had at that time, even though later a better and cheaper process might be discovered. In like manner with the Gums that have been introduced from time to time, I have placed them before the profession and stated what was *claimed* for them, I did not endorse the claims of one more than another, but have always explained the claims and my own views, that I have been misled, in one or two instances, for a brief period, I will not deny. Such was the case in August, 1858, when I stated that Mr. Goodyear's patent would soon expire and he was attempting to have it renewed, this statement was made on the authority of the *then agent* of the A. H. R. Co., whose letter is still on my file. I then went to work to investigate for myself, procured the specifications, and soon found my errors, and *as soon corrected* them. The same difficulty has occurred in regard to the Gums—a constant change and want of uniformity—changes of name as well as of characteristics—even the A. H. R. Co. scarcely succeed in producing two successive lots of Gum precisely alike; some are very fine, easily worked, and a bright color, whilst others are stiff, obstinate, dark and brittle.

The A. H. R. Co. give me *greater credit* than my own modesty would

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permit me to claim for myself, in stating that I have made my "pile," and that my business has more than quadrupled in the past year with large profits, &c., and that the *talents* employed by them is *confessedly inferior* to my own. Such eulogy I would scarcely expect from the warmest friend; in fact, the whole article is either directly or indirectly a recommendatory or eulogistic advertisement, the copious extracts from my articles give prominence and circulation to my views and opinions which could not have been obtained in any other way, and which I could not have had the assurance to ask; for all this I feel a deep sense of obligation which I feel I can never repay. With the exception of a few opprobrious epithets and invidious comparisons, (which only show their impartiality.) I doubt whether I could have written of myself so flattering a biography—and, as Dogberry remarks, "comparisons are odorous," I have no right to complain even of these—they are certainly making rapid strides toward having me to occupy that loving position toward the American Hard Rubber Co. which they so beautifully describe.

Mr. Ropes, *alias* the American Hard Rubber Co., is very anxious to impress upon the profession that my article, in the October No. of the Register, did not expose his "sophistry," but was "mainly devoted to attempts to cast doubts over the truth of our plain and unequivocal statement of facts." This matter I am perfectly willing to leave to the judgment of the profession, whose intelligent discrimination will doubtless be able to give a correct verdict without the necessity of forestalling their opinions, I would either consider my *arguments very weak*, or the *profession very stupid*, if I thought it necessary to follow up an article, by informing the profession how to decide between it and some one else's productions. My articles, once written, must take care of themselves; if they are good, the profession will adopt them; if bad, the sooner they are rejected and forgotten, the better. Does it look reasonable that, if my articles were as Mr. Ropes says, "mere groundless insinuations" and "garbling of extracts," they would have commanded the *influence* for which he gives me credit, it would ordinarily be supposed that an educated intelligent profession, embracing in its ranks some of the best minds in the country, would, during an intercourse of eleven years, have discovered, whether or not, my statements are worthy of confidence, without the aid of the interested representative of a wealthy monopoly whose only object in *suppressing me* is to *fill their own pockets* with the hard earnings of the profession in which they have no interest except to make the most money in the least time and at the least expense. Unfortunately for Mr. Ropes, he does not seem to understand that the Dental Profession attach more value to *plain truth* than to a beautifully worded article with well-rounded sentences; or, in other words, that they are peculiarly a class of men who

"Seize upon truth where'er 'tis found,
On christian or on heathen ground!"

I was not aware that the American Hard Rubber Co. had ever "made a statement of *facts*," or that they had *any facts* to state. True, they did publish an extract from the Goodyear patent specification, which claims, in substance, "the combination of India Rubber or allied Gums with Sulphur, either with or without the admixture of other ingredients in the proportions of from four ounces to a pound of Sulphur with a pound of Gum, to produce a hard and inflexible substance similar to Horn, Whalebone," &c. This is a *CLAIM—not a fact*—there is nothing immutable about this. True, a patent is in itself *presumptive* evidence of its validity until *legally contested* and *proved to be invalid*, but it is not a *fact*, until the highest tribunal in the country has pronounced it so, and even then

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the claim may again be questioned by another party, and upon additional testimony may be set aside—and when once set aside it is *invalid forever*.

Mr Ropes is greatly exercised about my leaving off the latter part of the sentence in which he claimed that the "Goodyear patents cover all the vulcanizable compounds *which have yet been offered to the public for Dental purposes*." There are no such words in the patent specifications. Yet in the same article, page 113, he says, "It is true, we did, in the May No. of the Vulcanite, in referring to the Goodyear patents, state that they covered *all vulcanizable compounds*," but as we had in a preceding part of the same article in which this remark was made, published in full the claims of both of the Goodyear patents, *for the purpose of showing the extent of our rights*, it is absurd to suppose we intended anything more by our expression than was warranted by the patents themselves. But suppose we *did* intend something more than this, what harm could have resulted to the profession from such a claim. We had distinctly stated to them that *all the compounds then in the market for dental purposes*, including Amber Base, contained the proportions of ingredients described by Nelson Goodyear, and warned them against using them *for that reason*." So the profession are to take the ipse dixit of the A. H. R. Co., and lay aside all free thought, investigation, or private judgment,

The A. H. R. Co. has declared that their patents cover all vulcanizable compounds—who dares dispute it—the whole course of this Company towards the Profession has been one of absolute dictation; in every article and every circular they convey the idea of themselves as "I am Sir Oracle, when I do ope my mouth let no dog bark!"

Here again, Mr. Ropes has mistaken the Profession—they require something more than broad assertions—these may do for the public with whom he has been in the habit of dealing, but a liberal Profession wants something upon which reason and judgment may take hold, so that each one can compare and determine for himself.

What claim has the A. H. R. Co. on the confidence of the Profession, that their single assertion should outweigh the better judgment of its own members against the evidence of the senses of every professional man. What interests have they in common with the Profession, except to make the most they can out of them as quickly as possible. "Hurry in haste and repent at leisure," is a proverb that may well be applied to the purchase of patent rights.

Why, instead of stating these things in general terms, do they not give the precise constituents of the various *compounds*?

Let the Profession have the *formula* for giving the names and quantities of each ingredient in the American Hard Rubber Co.'s Gum.

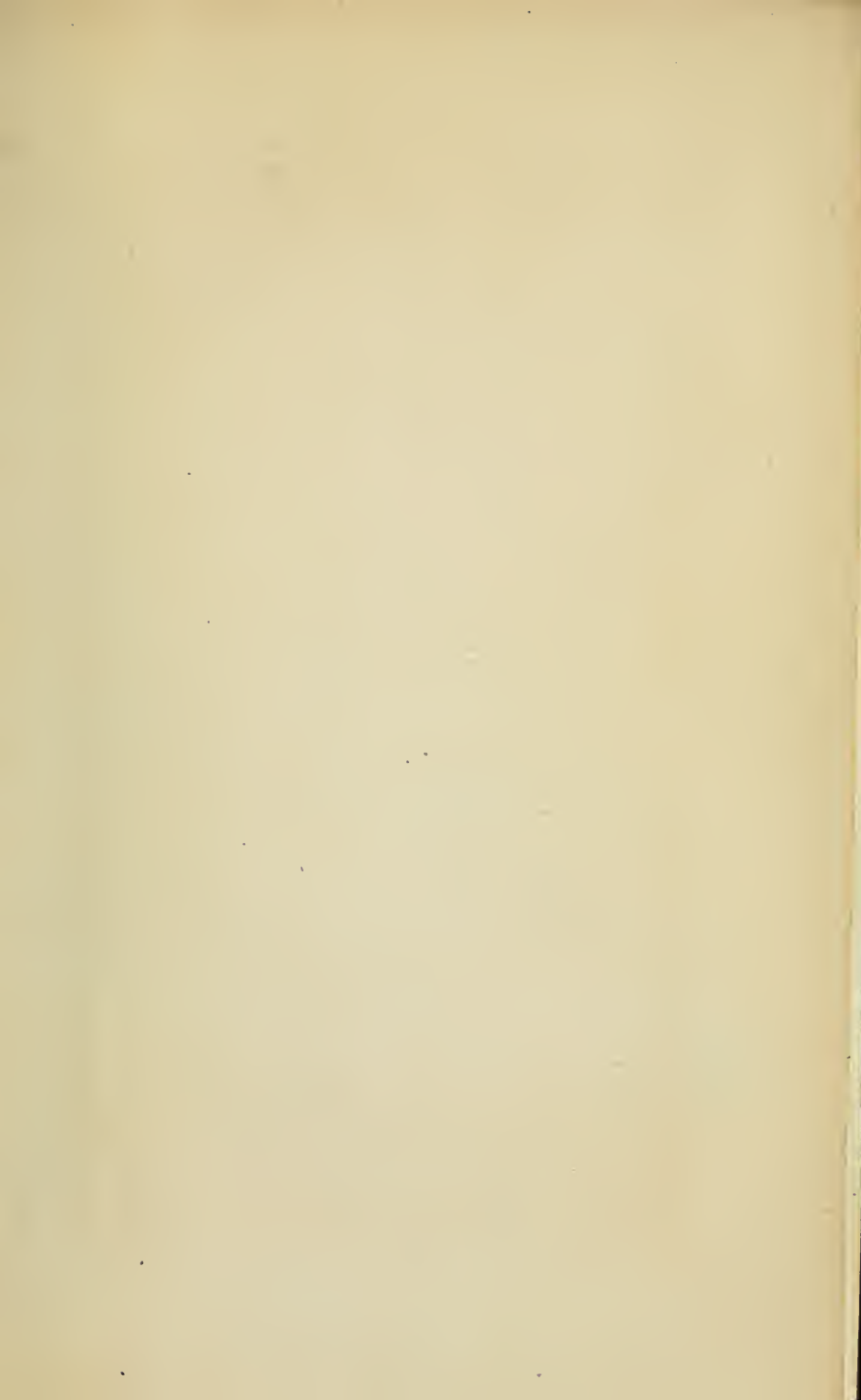
I give the names as they are known in the market.

The same of Wheat's Compound,
" " Amber Base,
" " Enamel Gum,
" " Metallic "

Best India Rubber Composition.

Then we will have an opportunity to *compare notes* and talk to the point. Then will the Profession have an opportunity to compare and judge for themselves, without the aid of the superior judgment of the A. H. R. Co.

Mr. Ropes thinks it is of no practical importance to know who wrote the article in the August No. of the Vulcanite, nor whether Dr. Dieffenback deserted his wife, associated with women of easy virtue, and went to Europe with a young woman, leaving his family destitute, or not. It is a matter of common remark, that corporations have no souls, and this representative of the A. H. R. Co. seems to endorse the saying.



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